

THE OBSTETRIC GAZETTE.

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Society Reports.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Stated Meeting of October 8, 1885.

Vice-President, DR. GILES S. MITCHELL, in the Chair.

Dr. J. W. Underhill reported the following

FATAL CASE OF PUERPERAL ECLAMPSIA.

The subjoined report of a recent case of puerperal convulsions is amplified from notes in my obstetric record, made at the time of its occurrence.

August 8th, of the present year, Mrs. Alvina C. consulted me at my office for general malaise and for symptoms of dropsy, as she described it at the time. Casual examination left no doubt in mind of the existence of albuminuria, and I gave a prescription of

Infusion of digitalis, $\mathfrak{z}\text{ij}$,
Acetate of potash, grs. xii.

To be taken every three hours.

As there was troublesome constipation, I ordered also the one-twelfth of a grain of elaterium to be taken at bedtime. Obtaining a vial of the urine next morning I found that about two-thirds of it coagulated in the presence of heat and nitric acid.

Mrs. C. was a multipara and had given birth to nine living children. Her age was 44, was of German nativity and rather stout physical conformation. I had attended her in the last two confinements and nothing noteworthy took place at either of them. She informed me, however, that in one of the earlier accouchements—perhaps it was at the first—there was much general œdema, especially of the lower extremities. There were no indications of convulsions and she had then a good “getting-up” as she expressed it. Not throughout her past life had she ever experienced an epileptic seizure or a convulsion of any sort.

But she had for the last ten or fifteen years been a great sufferer from frequent and intense headache. Scarcely a week within that period was not marked by a severe headache and sometimes the cephalalgia would last three or four consecutive days and nights. The bouts were not the

ordinary migraine, and were rarely attended with nausea. I considered them as idiopathic and treated her for these attacks pretty regularly for a period of perhaps eighteen months, but without the slightest permanent benefit. When very severe I administered hypodermically half a grain or more of the sulphate of morphia, but often in twelve hours the pain would be as agonizing as ever. Galvanism was given a thorough trial, but rarely ever moderated the severity of an attack. Iron, quinine, arsenic, zinc, strychnia, cannabis indica, all were given in various combinations, but without appreciable benefit. Cod liver oil, free phosphorous, ergot, and the bromides yielded no better results. For a time it was thought that nitro-glycerine, in doses of one one-hundredth to one-fiftieth of a grain, did good; but neither this, the nitrite of sodium nor nitrite of amyl afforded sufficient relief to warrant me in persisting in the employment of either. So excruciating was her suffering at times that she gladly made a thorough trial of any plan of treatment that I ever suggested to her. Other physicians of good repute treated her for these headaches, but with the same uniform want of success that marked my best efforts. I had suspected that the kidneys were at fault, but repeated examinations of their excretion by the most delicate tests showed no abnormality save occasionally the slightest trace of albumen, such as at times may be found in the urine of a healthy individual. The last examination had been made about one year ago. No fever was ever found to co-exist with these exacerbations and no trustworthy signs of meningitis—either chronic or subacute—could be detected.

About six weeks before the date at which the report of this case properly opens I casually met the lady at the bedside of a sick friend, and incidentally inquired concerning her habitual headache. I was agreeably surprised to hear her reply to the effect that since the beginning of pregnancy she had suffered but little inconvenience from her old enemy. She stated further that when *eniente* she suffered always less from headache than at other times, and especially was this the case during the present gestation. I may add that Mrs. C. had always been a healthy woman, except as already explained, did not inherit any nervous disorder, was rather stout, temperate in her habits, and accustomed to severe toil entailed by the taking care of a large household.

But to return to the narrative proper of the case.

August 9th I was told that the elaterium pill given the night previous had caused much retching and purging. Therefore I diminished the dose to the one twenty-fourth of a grain, and left orders to give it at night sufficient frequency only to produce one or two watery evacuations daily. The bromide of sodium, in doses of thirty to forty grains, was given also at intervals of twelve hours. Under this treatment the amount of urine diurnally voided increased to twelve or fourteen ounces, but the proportion of albumen was unexpectedly augmented—the whole quantity coagulating under the ordinary tests.

The patient was kept in bed after the day when I was first called. She was then near the end of the seventh month of utero-gestation. All that was possible to be done in the way of prophylaxis was effected. She being protected from atmospheric draughts, mental worry, and food that would be likely to cause irritation of the digestive organs. Tincture of iron was substituted for the infusion of digitalis and acetate of potash, in the belief that it would serve almost equally as well as a diuretic, and with the hope that it would favorably alter the condition of the blood and prove a good tonic. Some amelioration of the patient's condition seemingly took place, and the general oedema was notably lessened. She seemed to progress fairly for about a week, when suddenly, and without special discoverable cause, on the evening of August 16th, she grew rapidly worse, and at half-past seven o'clock I was hurriedly summoned. I found her suffering excruciating pain, which she referred to the precordium and pit of the stomach. Hasty examination detected no lesion of heart or lungs and I at once suspected that the pain about which she was so clamorous was in reality masked labor pains. The os externum was slightly dilated and to a fair degree dilatable. The pains were evidently uterine, although by the patient they were referred to the stomach proper and to the breast. Her agony was so intense that I directed morph. sulph., grs. ii, to be divided in five doses, of which one was to be given every hour until partial relief should be afforded. Half an hour subsequently I left the house, requesting that I might be called again when it was thought my presence should become necessary. Pain rapidly increasing, the family soon called Dr. Wenning, and at 10:30 p.m. I was again summoned. Upon my arrival I found Dr. Wenning at the bedside administering chloroform by inhalation in amount sufficient to enable her to tolerate in a measure her agony. Plainly was it now visible that convulsions were imminent, and we gave the anæsthetic consequently with greater freedom. The Doctor had been with the case probably a couple of hours and I relieved him with the understanding that he should return to the case when called. I then remained at the bedside until 4 a.m., giving the anæsthetic in such amounts and as often as I deemed best, and adapting from time to time such procedures as in my judgment I thought the urgency of the case demanded. So much morphine had been already taken during the early part of the night that I deemed it imprudent to use the narcotic further hypodermically, as I certainly should otherwise have done. Vaginal examinations gave me from time to time information as to the very slow progress of labor. Convulsions were warded off till 1:15 a.m., at which hour she had the first and only convulsion. It was general in character, affecting more the left than the right side. After this, at 1:30 a.m., she passed into a state of complete unconsciousness, accompanied with stertorous breathing, from which she could not subsequently be roused. Spasms were fre-

quently threatened for five or six hours prior to their actual occurrence, but chloroform inhaled at their approach prevented their outbreak in the first half of the night, as well as their repetition in the last half.

At a little after 1 a.m. Dr. Wenning returned, and we agreed that it was best to hasten delivery by all safe means possible. The entrance to the womb was by this time dilated as large as a silver dollar. The child was still quite high, and presented the left shoulder; the face being directed forward. I made manual dilatation and soon succeeded in getting the fingers of my right hand within the circle of the os, as far as metacarpophalangeal articulation. It was deemed more expeditious to turn and bring down the feet rather than to attempt cephalic version. To Dr. Wenning was entrusted the turning and delivery of the child. He deftly accomplished podalic version, the head rotating toward the left sacroiliac junction. The after-coming head was so long delayed after delivery of the body that the Doctor hastened its extraction by the application of forceps. The child, however, was still-born, having expired a few minutes before its birth was completed. The patient gradually sank, and, though hypodermic injections of ether and other stimulants were administered, she finally succumbed at half-past six o'clock in the morning.

Before closing my report of this case, I desire to add as my apology for having given so extended a previous history of the patient, the fact that I wish to learn whether, in the opinion of the members of this Society, any connexion existed between the long pre-existing habitual headache and the conditions which developed fatal puerperal eclampsia.

A final point in the case, worthy of attention, relates to the age of this patient. From what we know of the disease in question, we would not expect a woman of 44, one who had gone safely through nine confinements, to fall at last a sacrifice to that fatal malady which gathers most of its victims from the ranks of younger women—especially from those of the primipara.

DISCUSSION.

Dr. Palmer regarded the case as very interesting in that the patient was a multipara of many children. It is well known that most cases of puerperal eclampsia occur among primiparæ, seemingly on account of the greater amount of renal pressure resulting from rigid, unyielding abdominal walls. But the liability to puerperal convulsions was not increased in proportion to the size of the abdomen, for when immense abdominal tumors were present, uræmic poisoning and eclampsia are rare.

He did not look upon the headaches in the case as standing in any direct relation to the eclampsia. The evidence proved that they were not of kidney origin, for they dated back to a time before the first pregnancy. They, however, were based upon a neurotic habit, and, in this sense, expressed a predisposition to eclampsia. They expressed a mobility of nervous system, more easily excited.

As to the treatment in the case, he would not offer any criticism, except to suggest that possibly the life of the woman might have been saved by the induction of premature labor. As to the propriety of such a procedure under certain conditions of puerperal albuminuria or rather uræmia, he thought there could be no doubt, scarcely more so than for certain cases of placenta prævia and pelvic deformities. Just when, or whether to do so at all, is sometimes a very difficult question to answer. We must decide upon what seem probabilities. As good a rule as any is: if the urine is becoming more scant and albuminous, and the general disturbance more threatening, it is prudent not to wait, but to excite labor. In Dr. Underhill's case, as we understand, while the urine was more free, it was also becoming more albuminous—a bad indication. Yet under the circumstances he did not know that he would have decided differently, for the case had been under observation but a few days, and the doctor was daily working and hoping for an improvement. Not enough time had elapsed to demonstrate the absolute necessity of waiting no longer.

Dr. Cleveland regarded the case just reported unique because the woman was already 44 years of age and had been subject to these attacks of headache. Although he did not consider these headaches as bearing any relation to convulsions, yet he thought that the neurotic condition of the patient was a prominent factor in inducing them. Uremic poisoning in itself does not lead to convulsions although it generally does produce coma. It is said that pressure produces convulsions, but there is always some pressure in pregnancy without necessarily causing such grave symptoms. Consequently to produce eclampsia there must be a combination of causes, namely, an intensely neurotic condition in company with the other factors, as pressure, the presence of urea in the blood, etc.

He was also of the opinion that, if possible, premature labor ought to be induced early, but this may be difficult in most cases, and, indeed, in some instances, labor cannot be brought about soon enough to do any good. The main object to obtain is the prevention of these attacks by some form of treatment, but unfortunately, we generally fail in this because it is too late.

It is not necessary to enumerate all the numerous methods suggested to prevent albuminuria by favoring the elimination of urea; even blood-letting may be of service in some cases and ought to be considered along with other means. As regards the management of this case reported, however, he could add nothing to what had been mentioned, as it is much easier to say afterwards what could have been done, than to determine at the time what is the best method to pursue in a given case.

Dr. Wenning said that the report of the case as given by the essayist was certainly exact, as notes were taken by him at the time of its occurrence,

whilst the speaker could simply rely on his own memory for the data of his connection with the case. When he was summoned to the patient, shortly after Dr. Underhill had left the house, he found the patient to be a lady whose acquaintance he had made accidentally though not professionally a few months previous. At that time she said she had been a great sufferer from headache for many years and that nothing had been able to relieve her, but that she was at that time in good health. There was no appearance of dropsy or any other indication of disease. He was therefore surprised to see her again at the time he was summoned, intensely swollen (œdematous) and in such agony from dyspnœa that the whole neighborhood was aroused. The speaker hastily learned from the husband that his wife was pregnant in the seventh month, that Dr. Underhill was attending her for disease of the kidney, that the latter gentleman had just left the house, after having prescribed for her some powders of which she had just taken two without deriving any relief. The speaker feared to give the patient any more morphine (for such he supposed the powders to be) although he permitted the administration of one more powder a little later. Whilst he was deliberating in his own mind whether he would administer chloroform or not the patient suddenly cried for this agent and then he dispatched a messenger for chloroform. He also told the husband that he feared that convulsions might set in and advised him to send for his attending physician in order to discuss with him the propriety of inducing labor, which he looked upon as affording the only hope of relief.

He then administered just enough chloroform to quiet the patient, having with great difficulty succeeded in putting her to bed, when Dr. Underhill arrived. An examination then revealed that the os was beginning to dilate; it was soft and dilatable. The excessive pains were attributed by the essayist to be due to the labor, whilst the speaker was first of the impression that this terrible dyspnœa might be due to an effusion into the pericardium. As the patient had now become quiet owing to the further administration of chloroform the speaker withdrew, offering his services to the attendant in the case if the latter should deem them necessary. He was again summoned to the case about 2 o'clock a. m., when he found the patient unconscious and learned that she had had several convulsions. The doctor then suggested expediting delivery to which the speaker at once consented. The os, however, though considerably more dilated than at first, seemed to feel hard especially on one side. Dr. Underhill, however, succeeded in dilating it still more without much difficulty and the speaker, on account of the narrowness of his hand, succeeded in reaching the foot and turning as already related by the essayist. As both were exhausted after the delivery had been effected, Dr. Underhill requested Dr. Burhans to watch at the bedside of the patient and administer to her whatever was necessary. After the doctor left the house and

whilst waiting for Dr. Burhans the speaker observed her pulse getting weaker and weaker, and when the other gentleman arrived he advised a hypodermic injection of ether, after which he withdrew, about 4 a. m. At 6 o'clock he was, however, again summoned to the patient, when he found her dying. She had remained unconscious all the time but had had no more convulsions.

The speaker could not see what more could have been done, except perhaps, that the delivery had been forced immediately when the patient was quieted, after the first administration of chloroform, before any convulsions had yet set in. This, however, would only have given a gain of about two hours at most, assuming that it would have been possible to lose no more time than that was spent in the delivery afterwards.

The obscurity of the cause of convulsions until the presence of albuminuria and, consequently, threatening uremia, is accidentally discovered, may be seen from a case of uremic convulsions that the speaker reported to the Academy of Medicine a few days ago. In this case there was a history of epileptic convulsions which had been coming on for years, but singularly enough, generally only during the time of pregnancy. When the speaker was called to see her a few weeks ago she was supposed to have these supposed epileptic convulsions again, only that they were more violent, came on in rapid succession, and were followed by coma. The speaker finally suspected them to be truly uremic in character and after he had catheterized the patient the urine was found highly albuminous. The patient had a nursing child ten months old and was not now supposed to be pregnant. She died comatose the third day after the first onset of the attack notwithstanding that strong efforts were made to save her. In this instance it is a question if her previous epileptic attacks, which came on generally only during pregnancy, were not then already uremic, although it was singular that they never occurred during labor or shortly afterwards. It is possible, too, that owing to the enlargement of the uterus during pregnancy they were reflex and consequently neurotic in character. She never had any dropsy.

The apparently most hopeless cases may, however, get well. The speaker reported such a case before the society last year, where fearful convulsions occurred in a primipara of advanced age in labor with twins, yet both mother and one of the children remained alive, whilst the second of the twins was born dead. In this instance the patient remained comatose several days after delivery.

The speaker could recall four cases in all; in two the convulsions occurred during, and in two after delivery. In each class one died and one recovered. In one of the post partum cases the convulsions came on after four or five days; this patient recovered.

Dr. Illoway regarded the case as highly interesting but thought that a very important point in determining its character, namely, a microscopic

examination of the urine, at the time when she first presented for treatment had been omitted. It is possible that the patient had been laboring for quite a time under some grave renal trouble which a microscopic examination of the urine would have revealed long before the case became so aggravated as to show such an immense quantity of albumen in the urine, long before the development of uremia.

He was also of the opinion that in a case presenting itself with the symptoms of this one, indicative upon their face of serious renal disease, a most active course of treatment should be at once instituted. Cups, both dry and wet over the region of the kidney, hot vapor baths, active hydragogue cathartics, (the best of these and the best tolerated is the tinct. jalapæ co. of the German Pharmacopœia), etc.

Dr. Gustave Zinke regarded it difficult to determine what course must be pursued in a given case. It is easy to say afterwards what would have been the better course of treatment. He was not so sure that *Dr. Palmer's* suggestion of the indication of premature labor was just right, because if affected before the end of the 7th month the child might not remain alive, and it is well-known that the convulsions do not always cease with the expulsion of the child.

The speaker saw four cases of puerperal eclampsia and he was so fortunate as to lose not a single woman, and in but one case did the child die, death resulting from prolapse of the funis. His first forceps case was one in which these convulsions came on during the first stage of labor, the patient being a primipara 23 years of age. A midwife was in attendance and when the speaker was summoned the os was dilated to about the size of a silver dollar. He sent for additional counsel, *Dr. Val. Schneider* who would not at first believe that the patient had had convulsions until they returned. Chloroform was administered by *Dr. Val. Schneider* and he (the speaker) safely delivered the woman as well as the child. The other two cases were also primiparæ, both recovered and in both the infants lived; both were delivered with instruments; both vertex presentations, first position, second stage of labor. In one *Dr. Bruno Zinke* assisted in the other *Dr. Schwagmeyer*. *Prof. Palmer* was called in consultation in the case of prolapsus funis.

As long as the pathology is so obscure and since albuminuria may occur without convulsions and living children are born, no one can call it judicious to wait and deliver only as soon as seems practicable.

As regards treatment much could be said, but the speaker thought that if convulsions were severe and the patient plethoric he would not hesitate to use the lancet. He believed that *Gross* was right in deploring that blood-letting had fallen among the lost arts, and asserting that it has its justification in some instances.

Dr. E. W. Mitchell considered the previous speaker's experience as unusually fortunate, because the mortality rate in puerperal eclampsia is

on the whole very high. The statistics of New York City, collected for a number of years, show that fifty-two or fifty-three patients die annually from this cause alone in that city. He questioned if it would be proper to allow the continuance of convulsions for any length of time before deciding to hasten delivery, especially if it be at a period of pregnancy when the child is viable, for a premature labor in such an event will inevitably take place and the child in all probability will be still-born. Artificial delivery at the outset of the eclamptic seizure offers the best prognosis for the child, if not also for the mother. When, however, the child is not viable the symptom of albuminuria alone would not justify us in inducing abortion. The prognosis for the pregnant woman who has albuminuria, however, is always grave. Convulsions take place about once in nine cases. Taking this in consideration the procedure of forestalling convulsions by the induction of labor is certainly justified when the symptoms show eclampsia to be imminent. The propriety of resorting to this expedient is illustrated by a case recently reported in the *American Journal of Obstetrics*, by J. Taber Johnson; but here, it is true, the author was guided by the history of puerperal eclampsia in previous labors of the patient. Graily Hewitt has recently made some investigations in regard to the uterus in this affection, which show that this organ is in the state of tonic contraction in the convulsive seizures, and may thus destroy the life of the child. Hewitt regards this fact as justifying the early induction of labor. The speaker finally called attention to a case reported by him some time ago, in which there was a neurotic temperament which existed in several members of the family.

Dr. Trush thought there was a well-founded suspicion that the case reported upon by the essayist of the evening had been the subject of albuminuria in one of her early pregnancies, she having had œdema of her feet and other parts of her body; likewise, that the occasional, exceedingly distressing headaches, with which the patient had been afflicted since that early pregnancy and for which hypodermic injections of morphine had been usually employed, were also the result of renal derangement. The speaker had a patient (not a female however) who was afflicted with chronic kidney trouble and who suffered periodically from these excruciating headaches; at such times the urine would be as clear as water for a day or so, showing that the excretory function of the kidneys was almost completely suppressed. With the reappearance of a rather high colored urine the headache was at an end. Whenever we encounter these intense and general headaches, and more especially when the patient is a pregnant female, it is always well to look into the condition of the kidneys.

In answer to the query by one of the speakers, how early in gestation eclampsia had been known to supervene, he might cite a case from his own practice in which the convulsions occurred between the third and

fourth months, certainly not later than the fourth. The patient in question had complained for a number of days previous to the occurrence of the eclamptic seizure of a severe headache, said to be much worse every afternoon. Regarding this as indicative of a malarial origin of the headache, there being no dropsical symptoms of any sort present, he prescribed quinine, but without benefit. The convulsions, of course, at once opened his eyes as to the real state of things; two hypodermic injections of gr. $\frac{1}{2}$ of morphine and the 1-60 of atropine, given after the second and third seizures, arrested the paroxysms, but the patient remained in a kind of stupor for nearly forty-eight hours. A week later, after she had been up and about for three or four days she aborted, no further convulsions having taken place, and nothing having been done to induce the abortion.

Right here he desired to say a few words respecting the suggestion, that in the case of the essayist and all similar ones premature labor should be induced as soon as convulsions were threatening. He believed this was the prevailing doctrine of the day, but it was not so long ago when eminent authorities were rigidly opposed to the measure; he well remembered the protest entered against the *accouchement forcé* in eclampsia, by Prof. Braun, of Vienna, in his lectures some years since. In his own practice he, the speaker, had hitherto, and thought he should also in the future, observe a conservative course; having a case of albuminuria in a pregnant female he should endeavor to keep the several excretory organs of the body—kidneys, skin, bowels—in active condition, seek to allay nervous irritability and turn to the induction of premature labor only as a dernier resort. A case in point would illustrate his meaning: Some months ago a lady whom he had been engaged to attend in confinement, came to him complaining of headache and swelling of her feet, hands and face; the urine on examination was found to be albuminous. This patient received bitartrate of potash in diuretic and, occasionally, in purgative doses, and bromide of potassium from one to three drachms per day, varying with the intensity of the cephalalgia. Under this treatment the normal end of gestation was reached without convulsions; the patient was however seized with eclampsia near the close of the first stage of labor, and the convulsions would doubtless have occurred earlier had they not been held in abeyance by two hypodermic injections of morphine of $\frac{1}{4}$ gr. each. Patient was delivered with forceps immediately on subsidence of the spasmodic action and while yet in the comatose state—no chloroform being used—and a living child extracted. Both mother and child did well. Of course, as remarked by another speaker, it was always vastly easier to suggest improvements in treatment after the event than to do that better thing ones self at the moment of the emergency. Some of these cases reached so rapidly a fatal termination that absolutely no time was given for treatment; the case of the essayist he thought was one of this character.

He himself had once seen a case in consultation where the patient had had but a single paroxysm just at the moment of the expulsion of the child; the convulsion was of brief duration, nevertheless, all efforts to expel the succeeding coma proved futile, it grew, on the contrary, more and more profound and she expired in a few short hours. As a very opposite to this group of cases he would mention another, seen quite recently, also in consultation. In this instance, patient being a primipara, the first stage of labor had been very protracted, had lasted fully two days according to statement of attending physician; about 5 o'clock p. m. on the day previous to speaker's appearance upon the scene of action, when the head had reached the perineum, the first convulsion took place, which subsequently recurred with every pain throughout the entire night. At first patient regained consciousness between paroxysms, but after midnight consciousness did not return. When seen by speaker at 6 o'clock next morning, patient was profoundly comatose, the face had a bloated appearance, some swelling of feet and ankles was also noticed; the head of the child was found pressing hard upon the perineum. As a matter of course the child was extracted with forceps as speedily as possible and, although deeply asphyxiated, was finally resuscitated and lived, the mother also making a perfect recovery, notwithstanding she had been unconscious for almost three days and wildly delirious for as many days longer. Manifestly the pathological condition underlying these cases could not be the same; on the one hand we had a case of recovery without treatment after having sustained upwards of fifteen paroxysms, on the other, that of the essayist, proving fatal after one single convulsive seizure and in spite of the best directed efforts—in other words, some of these cases will recover without treatment, while others are unalterably doomed no matter how judicious and persevering the therapeutics.

Dr. Illoway asked if the case just related was not one of hysteria?

Dr. Trush replied that he thought not; all the symptoms witnessed being those of genuine puerperal eclampsia; he did not believe, however, that the kidneys were much involved and regarded the convulsions as of reflex origin.

In conclusion the speaker could not but express his surprise that the essayist, under the circumstances, should administer morphine by the mouth instead of having recourse to the hypodermic method, knowing as he must have done, how uncertain in its effects is the one and how reliable and prompt the other mode of using this drug.

Dr. Underhill replied to the query as to why he had not injected morphia hypodermically instead of giving it per orem, to the effect, that when last summoned his prognosis was then so unfavorable, that he feared if death shortly followed, he would be blamed by the family and friends for hastening the fatal event by using the hypodermic needle.

In reporting the treatment of the case he did not think it worth while to give all the particulars, as perhaps he should have done. When the

elaterium was found not to be borne well he gave as hydragogues the comp. powder of jalap, alternating with saline cathartics. As diuretics, equal parts of the infusions of buchu and uvæ ursi were tried for a time; also the infusion of digitalis, although he had little faith in the use of diuretics proper for the relief of kidney insufficiency in these cases. The tinct. of the chloride of iron was given a fair trial, since it is both diuretic and tonic. In fact nearly the whole routine treatment was exhausted during the eight or nine days the case was under his observation. It must be said, too, that her condition *apparently* improved up to the time when labor began. The general cedema had diminished somewhat and convulsions were *not* imminent until after the advent of labor. Hence he had not thought it best to bring about earlier delivery. There had been no convulsions at any of her nine previous confinements, and her age rendered their occurrence less probable than if she had been younger. Although the proportion of albumen in the urine had increased, yet the total amount of urine daily passed was greatly in excess of what it was at the beginning of treatment. Concerning the induction of labor as a prophylactic of eclampsia that point is not yet well settled. Lusk in the edition of his *Midwifery* just issued, says: "The weight of authority * * is favorable to procrastination, the interruption of pregnancy being regarded as an extreme measure, justifiable only in cases of utmost peril." Dr. Lusk, however, does not side with the majority, but ranks himself rather with the minority, who believe that premature labor, so limited, "is not likely to save many lives."

The speaker was further of the opinion that attempts to induce labor more prematurely in this case would, by the reflex or peripheral irritation thus excited, have brought about convulsions sooner than they actually occurred. It was thought best to wait till pains began and then hasten delivery by all safe means possible.

There was no neurotic history in the case. He knew the mother well; she is still living and presents no such temperament.

There seems to be three forms of puerperal eclampsia: the hysterical, the epileptiform, and the apoplectiform. The case reported belongs to the second category. In all, of course, there may be the same kidney lesions, but the convulsions are not all of the nature just described. He could recollect four cases that had occurred in his practice during the last few years, two died and two recovered. One of the former was of the apoplectiform variety—and one of the latter, of the hysterical kind, had eighteen convulsions. Those belonging to the hysterical class are more likely to recover than those of other divisions. The apoplectiform variety is most fatal.

Concerning death of the foetus, so frequent in these cases, he gave expression to the belief that it was caused usually by the presence of urea and other excrementitious products, derived from the maternal circulation rather than from the pressure of an over-stimulated uterus.

CHICAGO GYNECOLOGICAL SOCIETY.

Meeting of Friday, September 18, 1885.

The President, DR. H. P. MERRIMAN, in the Chair.

REMARKS UPON ABDOMINAL AND GYNECOLOGICAL SURGERY IN ENGLAND,
SCOTLAND AND HEIDELBERG.

Prof. E. C. Dudley made some informal remarks relative to his observations in gynecological and abdominal surgery, during a summer holiday, in Europe. His observations were confined to the work of a few operators in England, Scotland and Heidelberg.

In Heidelberg, he called upon Professor Kehrer. Dr. Dudley inspected the hospital and saw evidence of considerable work in abdominal surgery. Professor Kehrer's laboratory gave evidence of active research into gynecological bacteriology. His work bore the stamp of thoroughness and efficiency. Prof. Kehrer is a medium-sized man, frail and delicate, with a large head and small body.

A call upon Dr. Bantock, at his office, No. 18 Harley street, W., London, resulted in a pleasant hour's conversation upon subjects pertaining to ovariectomy and hysterectomy. Patients at the Samaritan Hospital sometimes die within twenty-four hours after laparotomy, with a high temperature. This condition was called acute sepsis by certain systematic writers. Dr. Bantock thought the true pathology of the condition was unknown, and was not satisfied with the term, acute sepsis. Dr. Dudley saw Dr. Bantock operate at the Samaritan Hospital. The first operation was the removal of a small, solid ovarian tumor. The remaining ovary and tube, although normal, were removed on account of a small intra-mural, uterine fibroid. The striking feature of the operation was great rapidity without haste. Dr. Bantock caught up the edges of the peritoneum with small compression forceps, so that these edges were drawn up towards the cutaneous edges, and were held in this position by the weight of the instrument against the abdominal surface. This manoeuvre greatly facilitated the passage of the sutures. The pedicle was secured by means of silk ligature, applied in the operator's peculiar figure-of-eight turns.

In closing the wound, a needle of ovoid shape, curved on the edge, instead of on the flat, was employed. This needle combines the maximum of strength with the minimum in size. Two or three sutures were passed through at each angle of the wound. Their ends were joined by knots. An assistant, passing the index finger of each hand through the loops thus formed, made traction at each angle of the wound, in such a manner as to draw its sides into contact, and to lift the peritoneal edges nearer to the surface. The introduction of the remaining sutures was in this manner greatly facilitated. The sutures were so closely passed that no superficial stitches were required. They were made to include a very

narrow margin of skin and peritoneum, and very little if any muscular tissue. Fine silk-worm gut was employed.

The ends of the sutures, on each side of the wound, were now grasped in lock forceps, which prevented them from being drawn out, or becoming tangled during the separation of wound for the toilet of the peritoneum, which was most thorough, the entire cavity being rendered perfectly clean and dry. The lock forceps were then removed from the ends of the sutures, and the hands of the assistant substituted. The action was thus made on all the sutures, in the direction of the upper angle of the wound, and they were tied in order from below upward and cut short. This prevents tangling of the threads and otherwise facilitates tying. Antiseptics, throughout the operation, were conspicuous by their absence. The dressings were of the most simple character.

Dr. Bantock kindly showed Dr. Dudley over the hospital, which contained a number of convalescents from hysterectomy, ovariectomy and oöphorectomy. Dr. Bantock's exceptionally good results, in the last operation, are recognized throughout the world. His wonderful statistics in abdominal surgery are due to downright splendid operating. Dr. Meridith, at the same time, was removing a tumor in another room, under the most extreme antiseptic conditions. The famous Samaritan Hospital is an unpretentious building, seemingly a large reconstructed dwelling, in the middle of a block, with houses joining on either side, and, like great men, has a modest appearance.

It is generally supposed in America that the Woman's Hospital in the State of New York, established by Marion Sims in 1855, was the first of its kind in the world. This is a mistake. Dr. Sims himself, in a letter to Dr. Protheroe Smith, of London, dated July, 1883, accords to that gentleman the honor of having established the first hospital specially for the treatment of the diseases of women. This hospital, founded in 1842, is now a flourishing institution in London, and is called the Hospital for Women.

Its venerable founder visited Chicago a year ago. Dr. Dudley again met him in London. His enthusiasm for the specialty, in which he has been a pioneer, continues, indeed, seems to increase with advancing years. He retains his official connection with the institution, as senior physician, and is still engaged in active practice. He was among the first, against bitter opposition, to advocate anæsthesia in labor. Efforts are now being made, with great promise of success, to raise funds for the construction of a larger and more appropriate hospital building.

Dr. Dudley visited Birmingham, in response to a polite telegraphic invitation from Mr. Lawson Tait. On the train he occupied the same compartment with a sleek, well-fed, high-church London clergyman of the most conservative order, who intimated in no uncertain manner that the conservative people of London looked down upon the inhabitants of

the radical city of Birmingham as a semi-barbarous community. So decided were his denunciations of the radical party in general, and of Birmingham in particular, which as the chief stronghold of radicalism always return John Bright and Chamberlain to Parliament, that Dr. Dudley in an apologetic manner explained that he was only going into the jaws of the Philistine to witness an operation by a distinguished surgeon, from whom he hoped to learn something. The clergyman inquired who the surgeon was, and upon hearing the name of Lawson Tait, exclaimed: "O, I know all about him, he is just as bad as any of them;" which means that Mr. Tait is a radical in politics, as he is in surgery.

Mr. Tait's ridicule of antiseptics is well-known. His rapid method of operating conveys to the casual observer the idea of haste and almost of carelessness.

But closer observation very soon shows him to be one of those rare operators, where dexterity amounts almost to a sleight of hand. An ovariectomy, in his hands, does not impress the observer as a capital operation. It seems almost as trivial as opening an abscess. His methods of operating did not materially differ from those of Dr. Bantock. In closing the wound he used but one needle, threaded with a piece of long silk, introducing this as if for a continuous suture, but did not draw the thread tight. After the introduction of the needle, he left a long loop before the reintroduction. Then, after taking the last stitch, he lifted the free loops of silk on the index finger, and severed them with the scissors, thereby converting the continuous into an interrupted suture. These were tied in the ordinary way, and the wound was dressed in a manner, which would be eminently acceptable to his most bitter antiseptic enemy.

During the day, Mr. Tait performed ovariectomy, lumbocototomy, perineorrhaphy, and excised a urethro-vulvar cyst, besides attending to a large number of consultations, in one of which Dr. Dudley accompanied him to a distance of forty miles. This was for him only a moderate day's work. It is indeed evident that no other man in England controls a larger practice in abdominal surgery.

Mr. Tait impressed Dr. Dudley as a sincere man of exceptionally strong and positive character and very much in earnest. Like Virchow he is politically inclined; indeed, his temperament is such that he cannot see things go on without having a hand in them. He has taken active part in the city government of Birmingham, and as Dr. Dudley was informed, had already declined to stand for Parliament.

During the brief visit in Edinburg, Dr. Dudley was pleasantly entertained by Dr. Thomas Keith, who had just returned from a consultation with Dr. Homans in Boston, but unfortunately Dr. Keith did not operate during this time, although a large number of patients were waiting for him at the Royal Infirmary. His son, Dr. Skene Keith, kindly in-

vited Dr. Dudley to an ovariectomy, his forty-eighth operation. Up to this time, he had only lost one or two patients. His operation presented some interesting peculiarities. He used probe-pointed scissors of a peculiar pattern, instead of the director, in going down through the deeper layers of the abdominal walls. By pressing firmly against the adhesions with a sponge, at the point of their attachment to the cyst, he literally sponged them away from the tumor. It was surprising to note the facility with which rather firm adhesions were thus broken. It is much easier to tear them from the tumor with the sponge than to tear the tumor from the adhesions. The breaking of the adhesions in this way is also much more gentle, and in the opinion of Dr. Keith, diminishes the danger of shock.

The adhesions were ligated with fine catgut as fast as they were divided. In passing the ligatures a forceps similar to the ordinary compression forceps, was used. This instrument had blades more than an inch long, of very small diameter, terminating in sharp points, so sharp that when the blades were closed they could be thrust through any soft tissue like a large needle. Grasping the ligature in the point of these blades the tissue to be ligatured was transfixed. The ligature was then pulled through and the forceps withdrawn.

The pedicle was transfixed and ligatured with fine silk in the same way.

The cautery, to which much of the elder Keith's success has been attributed, was not employed in this case, because the pedicle was very slender. The reason why the cautery in the hands of other operators has not proved a more powerful protection against hemorrhage becomes apparent to any one who has witnessed its application in the hands of Dr. Keith. The whole secret of his method is, first, the powerful compression of the pedicle between the broad blades of a heavy Baker-Brown clamp; second, in the prolonged application of the red hot cautery iron, not only to the pedicle, but, after this has been burned to the level of the clamp, also to the clamp itself. In this way the clamp becomes so hot that the included portion of the pedicle is slowly and thoroughly cooked, so that when the instrument is removed the end of the pedicle is thin and translucent, resembling a horny substance. Such a pedicle, in the experience of Dr. Keith, never gives trouble from oozing.

The wound was closed with fine silk sutures which had been boiled. Ten or fifteen pieces of silk were threaded at each end with very finely well tempered needles nearly three inches long, which were introduced on either side from within outward. Very small margins of peritoneum and skin were included in the sutures. Dr. Keith thought it a very common fault among operators to draw the stitches too tight in tying. The long fine needle used in closing the wound is superior. It makes a very small puncture, which never bleeds, and is so fine that it is easily pushed through by means of finger and thumb without needle forceps.

In the *American Journal of Obstetrics*, April, '1880, Marion Sims had given a very remarkable description of the Keith operation, which has exerted a powerful and beneficent influence upon the operation in America. Dr. Dudley could add little except the gentle handling of the adhesions with the sponge, the ligature forceps and the peculiar long straight needles already mentioned.

The wonderful success without antiseptics recorded by the great Scotch ovariologist, by Dr. Bantock and by Mr. Tait, who have reduced the mortality almost to zero, must have great influence in fixing the value of Listerism so far as it relates to abdominal surgery. At any rate, incompetent operations under the dangerous impression, that in some mysterious way, antiseptics will deprive a crude surgical performance of its greatest perils. Evidently, it was not so much a question of Listerism as of removing the tumor with the least possible amount of operating, and in the shortest time consistent with careful attention to detail, and in the most gentle manner.

Dr. Dudley, however, raised the pertinent question whether Listerism should be placed on trial before a court of abdominal surgeons, and whether, if found unnecessary, in peritoneal surgery, it could be fair to condemn it in general. He thought that such a verdict could not be sustained by the facts, but that the antiseptic principle in surgery was destined to stand. Even the most violent opponents of antiseptics agreed that perfect cleanliness was essential. He knew no other method by which cleanliness could be rendered so nearly absolute. Nor did the seeming ability of two or three of the most dexterous operators to do without antiseptics prove that it might not be a useful aid to others. Clearly, the man who removes a tumor with the least operating and handling of the parts will require fewer preventive measures against inflammation and sepsis. Antiseptics, therefore, might be most valuable for an inexperienced operator, and, to say the least, an additional safeguard for anyone.

Some American operators were now having about as good results as could be shown in Great Britain, which seemed to indicate that our former high mortality in this American operation had been due in reality to bad operating, and not, as many supposed, to climatic causes.

The minor gynecology of Great Britain had apparently made but little progress since the days of Bennett and Simpson. The general impression prevails that on this side of the Atlantic we are going wild in the minor gynecological surgery. In response, we may now congratulate our English brethren that many of their leading gynecologists are already commencing to comprehend, to appreciate and to perform the American operations of Perineorrhaphy, Elytrorrhaphy and Trachelorrhaphy, and at the same time to lay aside in a measure the old *porte caustique*.

DISCUSSION.

Dr. H. P. Newman said that there were other reasons for the brilliant success of foreign laparotomists than those referred to by *Dr. Dudley*. Aside from the facility and expeditious manner of operating, acquired by large experience, a prime factor is the justifiable self-confidence of the operator and a responsive confidence inspired in the patient.

Dr. W. W. Jaggard thought that minor gynecological operations, as *Dr. Dudley* termed, were less frequent in the United Kingdom and the Continent than in America. *Dr. Dudley* had made this general assertion and he agreed with him. He did not, however, think the operative skill of British or Continental surgeons inferior to that of their American *confrères*. The indications for operative procedure do not exist in the United Kingdom and the continent as in America. Laceration of the cervix and perineum are of much less frequent occurrence. The *cervix uteri* is usually effaced, and the external os is fully dilated before the application of the forceps. Manual dilatation is less frequently practiced. The bag of waters is not prematurely ruptured. Greater care is taken with the preservation of the perineum. In a word, obstetricians are better operators, and do not require so-called gynecological assistants.

Dr. E. J. Doering said that, in 1874, he had been present at ovariectomy and other operations, performed at the Samaritan Hospital by *Sir Spencer Wells*. He was particularly impressed with the extreme care exercised in admitting spectators to the operations, each visitor being required to sign a statement that he had not made an autopsy or attended a case of contagious disease for the two or three days proceeding. He desired to know whether these regulations were still in force, and also if *Mr. Lawson Tait* and *Dr. Keith* required similar restrictions.

The President asked the following questions:

1. "Was any reason given to the patients to prepare them for the operation by any of the eminent gentleman mentioned?"
2. "How are the patients covered during the operation, or was the whole abdomen left bare?"
3. "How was the evacuation of the cyst managed?"
4. "Was the patient turned upon her side to accomplish this, as *Dr. Thomas* sometimes does?"

The President suggested that all who desired should ask questions for further light before the general discussion began.

Dr. Christian Fenger replied to the question, raised by *Dr. Dudley*, that antiseptic precautions might be more important in surgery, where it looked as though more perfect methods of operating with antisepsis, as follows:

He thought that the abdominal, or rather peritoneal cavity, in respect to the antiseptic precautions, occupies a peculiar position in surgery. The danger from absorption of the poisonous antiseptics is far greater in

the abdomen than in wounds. The ability of the peritoneum to absorb serous fluid and blood before it decomposes, to encapsulate foreign substances not capable of absorption—*ex. gr.*, rubber ligature—is perhaps somewhat greater than the ability of a wound in that direction, although it may be that there is some prejudice about this, as we have not as yet used silk ligatures extensively in general surgery.

As to the question, whether more perfect methods of operating without antisepsis would improve the results, or rather prevent inflammation and sepsis, he could say that outside of the peritoneum this question must as yet be answered in the negative.

In 1873, Volkmann, of Halle, introduced the Lister method of dressing and operating in his surgical clinics. In his report of the work done in 1873 (*Beiträge zur Chirurgie*, 1875), the antiseptic surgery had reduced inflammatory and septic complications following excisions, amputations, fresh penetrating articular wounds, fresh open fractures, to a minimum never before dreamt of, and all this in one year. In the broad field of surgery it is not possible that Volkmann or anybody else could improve the *technique* of operating, to the extent of having the results change all of a sudden in that way. No surgeon would dare, to-day, to excise, for example, a knee-joint, without antiseptic precautions in all the minute details, even if he employed all the latest improvements in the method of operating. Abdominal surgery is the only branch of surgery in which, as yet, the heavy operating has been done without antiseptic precautions.

SUFFOLK DISTRICT MEDICAL SOCIETY.—SECTION OF OBSTETRICS.

Meeting of May 20, 1885.

DR. JAMES R. CHADWICK, President, in the Chair.

Dr. R. A. Kingman read the following paper:

ANÆSTHETICS IN LABOR.

Upon scarcely any subject in the department of obstetrics does there exist greater difference of opinion than upon the advisability of mitigating the pain of normal labor by the employment of the anæsthetic agents at our disposal. Not only is this true of the great authorities in obstetrical literature, but it is equally true of the physicians of our own city, and even of the instructors in our medical school; and this fact has seemed to me to offer a sufficient apology for calling your attention to the subject this evening.

It is not my intention to formulate precise directions as to how, when and what anæsthetics should be used, though incidentally each of these points will receive brief attention. I do, however, expect to be able to give some strong arguments in favor of the practice I am advocating, to disprove some, if not all, of the arguments of the opposition, and finally,

to reach the logical conclusion that having at our disposal substances capable of safely and effectively relieving pain without materially affecting the progress of labor, it becomes our duty as physicians to at least offer to our parturient patients a mitigation of their sufferings.

The drugs which are of the greatest practical importance to us in this connection are chloral and ether, and to these alone our attention shall be confined. I make no apology for omitting chloroform from the list, for I am aware of no good reason for using one anæsthetic in surgery and another in midwifery, and as to the superiority of ether in the former field there can be no question. Nor is it necessary to even mention the many other drugs that during the past few years have been classified with those already mentioned. Chloral and ether will serve every purpose, and being freer from objections than the others, may be taken under consideration as types of the class.

Chloral, though discovered as early as 1832, by Liebig, was not used as a medicine until the year 1869, when Liebreich began experimenting with it. Noticing the fact that in the presence of alkalies chloroform was produced, he reasoned that this same transformation must occur in the blood, and that consequently chloral was capable of inducing true anæsthesia. The effect of this hypothesis was to bring the drug into immediate popularity. It was made use of in almost every conceivable ailment, in obstetrics as well as in general medicine. Failing to answer all expectations, however irrational, it rapidly fell into disrepute, from which it has never fully recovered.

That we may more intelligently assign it the place that it is undoubtedly fitted to fill in the field of obstetrics, let us study for a few moments its action upon the uterine contractions, the extent of its anæsthetic and hypnotic powers, and its influence, if any, upon the health of the mother and child.

The facts that I am about to state are derived largely from the valuable monograph ⁽²⁾ of A. Pellissier, of Paris, published in 1873, in which is given not only the result of his own deliberations and ordinary clinical experiments, but a careful and very conclusive series of experiments upon animals. He formulates three propositions which cover the whole matter so perfectly that I will give an almost literal translation. They are as follows:

"1st. Chloral does not in the least suspend the progress of the labor.

"2d. It causes a diminution of pain, sometimes almost its complete suppression and secures to the patient a calm and refreshing (*réparateur*) sleep, the result of which cannot be otherwise than favorable to her.

"3rd. Employed in a wise and prudent manner it is absolutely innocuous."

2. Des Indications de l'Hydrate de chloral dans l'Accouchement.

In proof of this first proposition can be arrayed the declarations of such men as Pajot and Simpson, who state that contractions of the uterus continue regularly and powerfully, and that they have never seen them suspended in consequence of the administration of chloral; or the still stronger declaration of Lambert, of Edinburgh, to the effect that "far from suspending uterine contractions, chloral renders them still more active," and that "the labor under the influence of chloral, will probably be of shorter duration, for the reason that unconscious contractions are more powerful than painful ones."

These and many other similar statements may be adduced to show that the action of the uterus is not interfered with by the drug under consideration, but that the fact may not appear to rest upon simple assertion, witness the following experiments as related by Pellissier.

Not being able to procure pregnant bitches, he operated upon unimpregnated ones, exciting the uterus to contract by touching it with an electrode. In one case he injected into the intestine two doses of chloral of two grms. each. After the first dose the dog slept profoundly, though reflex movements were unaffected. After the second dose complete anæsthesia supervened. In this connection the uterus was seen to contract vigorously, though the duration of the contraction was slightly less than before the chloral was administered. The contractibility was not at all affected by the first dose. The dog rapidly recovered from the effects of the chloral and from the operation.

It was found that when laudanum was employed instead of chloral the uterine contractions were almost entirely annulled.

If now, it be remembered that we never have occasion to give chloral in anything like the amount here mentioned, it is obvious that the tendency of the uterine fibres to contract is very little, if at all, interfered with.

As my own experience with chloral has been entirely in accord with the facts just stated, I may perhaps be permitted to report very briefly a single case which may serve as an illustration of the actual results to be expected. In this particular case the amount of chloral given was five grms., distributed through several hours of the evening. The patient was a primipara who had suffered acutely from a prolonged and very painful first stage. The primary effects of the drug were to produce sound and refreshing sleep, with almost complete extinction of pain, the patient waking and complaining slightly of each contraction. For about an hour she slept continuously, taking no notice of the pains *which continued without interruption*. At no time did I notice any diminution either in the force, duration or frequency of the contractions. The effect of the chloral was marked until the latter part of the second stage when it was supplemented by the inhalation of ether.

Much larger doses than those employed by myself have been frequent-

ly given by French accoucheurs, the amount sometimes reaching twelve or even twenty grains in the course of a few hours, and yet the testimony of these men is that chloral never interferes with the progress of labor, except in those cases in which the duration is actually diminished by it.

The second proposition states a fact of such universal experience that it seems almost superfluous to attempt its proof, and yet it is a fact of vital importance to the object of this paper, and that nothing may appear to be taken for granted, a few brief statements may be made in its support.

By its anæsthetic and hypnotic powers are claimed for chloral. Let us see how far these claims can be substantiated.

Pellissier, as a result of his experiments, presents sphygmographic tracings which beyond question demonstrate the production of complete anæsthesia in dogs. If it is thus effective with dogs it is safe to assert that it is capable of producing the same result in human beings, the only reason why the drug is not so used being the fact that the safety limit might easily be overstepped. Though for this reason it is not advisable to attempt the production of surgical anæsthesia, there seems to be no ground for denying that lesser degrees of the same condition may and frequently do occur as a result of ordinary therapeutic doses. By virtue of this anæsthetic property of chloral, the pains of labor may be sufficiently overcome to afford free play for the drug in a calmative and hypnotic direction.

The excitement of the patient being quieted, the pain being lulled, and the sense of continual discomfort and apprehension being obliterated, exhausted nature asserts herself and the patient sleeps. According to the amount of the drug exhibited, the sleep will be deep or light, quiet or uneasy, the pains will be unnoticed or will give rise to lively manifestations of suffering. This sleep being in many respects a natural one, and the patient being in the midst of an exhausting process, may I not be permitted to assert without further demonstration that it "cannot be otherwise than favorable to her?" It must refresh her, strengthen her, favorably influence the progress of labor, and insure a more comfortable and certain convalescence.

"Employed in a wise and prudent manner it is absolutely innocuous,"—this is the language of the third proposition, and in attempting its support I would not strive to conceal the fact that a very considerable number of deaths have arisen from the administration of the drug. I do venture to assert, however, that in every case of fatal or even alarming chloral poisoning the saving clauses in the above statements have been disregarded, that is, the drug has been given in an unwise or imprudent manner. Either the initial dose was too large, the repeated doses too heavy or given at too short intervals, thus producing a cumulative effect, or some of the contraindications have been overlooked. Deaths have

occurred from very moderate doses of opium, and yet is that fact advanced as a reason why an opiate should never be given simply to relieve suffering?

As we are dealing in this paper merely with the effects of chloral administered during the course of labor, the question becomes much simplified, for, so far as I have been able to learn, not a single case of fatal poisoning has ever occurred from such use of the drug. That the chronic use of chloral may, and often does entail a series of characteristic symptoms is neither denied nor doubted, but that so brief an employment as I am advocating of it is ever followed by unpleasant results, few have claimed and none have ever proved. On the contrary it is universally admitted that the great superiority of chloral as a hypnotic lies in the fact that it is not followed by headache, mental or physical depression, dyspepsia or constipation, but that it leaves the patient in the condition of one who has enjoyed a perfectly sound and natural sleep.

It having already been demonstrated that the uterine contractibility is unaffected by chloral, it follows as a corollary that post partum hemorrhage can not be caused by it, as claimed by some. It is an undisputed fact that chloral administered to the mother during labor has no injurious effect whatever upon the child.

There is one important action of the drug under consideration, which though not referred to in either of the three propositions, is worthy of mention here. It possesses in a marked degree the power of relaxing the spasmodic contractions of the muscular fibres of the cervix. In those cases of unyielding os in which the rigidity is due to the above cause, and is not complicated with cicatricial or inflammatory hardening of the tissues, we may expect a speedy relaxation under the use of chloral.

Concerning the administration of chloral no minute directions need be given. I do not recommend it for every case of labor; but I do consider that in cases in which the pains are acute, continuous, exhausting or ineffective, in which the patient is nervous, excited, apprehensive or depressed and discouraged, or in which the os is spasmodically resisting the forces that tend to dilate it, in all such cases, I say, chloral is indicated. For the multipara, whose labor of an hour or two is almost devoid of pain, and in whose case loss of sleep is not an incident, no chloral is necessary; but what reason can be advanced for refusing it to the primipara, harassed by nagging and ineffective pains, to whom sleep has been a stranger for hours, and it may be days, who is certain to have at least some hours of similar or even worse suffering, and to be left, when it is all over, exhausted, prostrated, in such a condition as to render hemorrhage liable, puerperal disease more probable and convalescence tardy? In such extreme cases and in the more common simpler ones, let chloral be given to such an extent as to relieve suffering, quiet agitation, and afford sound, refreshing sleep.

I would suggest that either one or two grammes be given at once, according to the exigencies of the case, to be followed by one gramme doses at intervals of one half to one hour, until the desired effect be produced. After that give only as required to continue the effect.

Coming now to the subject of ether, there are certain questions which must be answered before we can decide upon the merits of the case. What is its effect upon the uterine contractions? What upon the dilatability of the os? What upon the distensibility of the perineum and the chances of its rupture? What upon the aid afforded by the abdominal muscles? What is its value as a calmative, hypnotic and anæsthetic agent? What are its subsequent effects upon mother and child? How great is the danger attending its use?

First, What effect has ether upon the uterine contractions? This is the question that has occasioned more difference of opinion than any of the others, and upon it more than upon any other hinges the rule of practice. Many of the best authorities claim, and with perfect candor, that the inhalation of ether causes diminution both in the force and frequency of the contractions of the uterus, and that both, as a result of this fact, and in consequence of its depressing influence, it predisposes to hemorrhage.

On the other hand, quite as good and as abundant authority can be offered for the contrary statement that ether, given for the purpose, and according to the method to be advocated later, does not delay the labor, that it occasionally even increases the force of the contractions, and that statistics do not show any increase in the percentage of post partum hemorrhages following its use.

Now to affirm that both of these statements are literally true would be to assert an apparent paradox, yet that such is the case can readily be shown. The whole difficulty lies in the fact that the first class of observers overlook the saving clause in the second statement, namely, "for the purpose and according to the method."

As will be seen subsequently, the meaning of this is, that in giving ether during labor simply for its anæsthetic and hypnotic effects, the degree of surgical anæsthesia should never be reached. It is never necessary to give it even to the abolition of complete consciousness. This fact, I say, is overlooked by the first class of observers, who take into consideration as well those cases in which ether is given to the total extinction of consciousness, to the production of surgical anæsthesia and even all the cases of operative midwifery in which no one can estimate the influence of the operation itself or of the cause that made operation necessary.

Before going further it is necessary to state that most of the authorities to be referred to, are discussing chloroform, but it will readily be admitted that what can be said in favor of the more powerful agent, at least in this connection, is doubly true of the weaker and safer. It is necessary

to make use of the testimony concerning chloroform because so comparatively little has been written on the subject of ether for reasons that are sufficiently understood.

Prominent among the advocates of chloroform stands Professor Barker⁽³⁾ of New York, who is authority for the statement that chloroform sometimes lengthens the labor, but in a large majority of cases it shortens it. He classifies these latter cases under three heads:—

(1). Those in which inefficient uterine action results from loss of sleep and exhaustion from prolonged first stage.

(2). Those in which delay occurs from rigidity of the os or perineum. (The rigidity being due of course to muscular action and not to fibrous contraction.)

(3). Those in which pains are inefficient from hysteria, vivid moral impressions, or severe pain due to other causes than uterine contractions, as, for instance, some pre-existing disease.

Concerning post-partum hemorrhage, he says it is usually due to uterine inertia which is commonly the effect of exhaustion. This condition does not obtain where ether is used, and consequently hemorrhages ought to be less frequent.

A single case reported by the same author may serve to illustrate the occasional action of chloroform in increasing deficient uterine action, and the same property may be quite as strongly claimed for ether. A primipara having had a first stage of eighteen hours, entered upon the second stage with strong and efficacious contractions, but after five hours these became irregular and feeble, finally ceasing altogether. Preparatory to the application of forceps, chloroform was administered, the patient coming rapidly under its influence. Immediately the pains started up and in twenty minutes the child was born naturally. Dr. Barker says that since that time he has often witnessed the same results.

Dr. Piachaud, of Geneva, in a thesis⁽⁴⁾ presented before the International Congress of Medical Sciences in 1877, says that by the use of chloroform he was enabled to leave many cases to the efforts of nature which otherwise must have terminated with forceps.

The second question needs no discussion, for the effect of ether upon the os is almost identical with that of chloral. So with the third question, concerning the perineum, except that here enters another item for consideration. It is claimed that the patient having her sense of pain benumbed and having to a certain extent lost her power of self-control, will strain down just at the critical moment and thus determine a rupture which might otherwise have been prevented. So much truth is there in this statement that I would advise that, at the moment when the head is passing the vulva, the ether should be so far suspended as to insure the

3 *Anæsthetics in Midwifery*, New York, 1861.

4 *Emploi des Anæsthesiques pendant l'Accouchement Naturel*.

entire co-operation of the patient. If this caution be borne in mind the result will be a less number of ruptures than when ether is not given, for the reason that the patient being better able to bear the pressure of the head in the outlet, its expulsion can be permitted to take place more slowly. In those cases in which the pains are exceptionally severe, or in which the patient has shown herself unruly, it will be better to push the ether to the production of surgical anæsthesia.

It has been noticed and commented upon as a curious fact that the abdominal muscles continued to play their part in the process of labor, even though the other voluntary muscles of the body were completely relaxed by the use of an anæsthetic, and it is only within recent years that it has been explained on the ground that these muscles belong to the respiratory system, and therefore are among the last to lose their activity. As, however, the patient need not be placed so deeply under the influence of the anæsthetic as to lose her consciousness, she will continue to assist the process by voluntary efforts which are often much stronger and prolonged than when the ether is withheld.

The fifth question that I have propounded is: What is the value of ether as a calumative, hypnotic, and anæsthetic agent?

Its effect is in many respects similar to chloral. Acting much more rapidly and the effect being correspondingly evanescent, yet the patient is soothed, relieved of her suffering to a very considerable degree and is enabled to sleep quietly between the pains. Its effect is immediate, constant and salutary. Being withdrawn the patient quickly experiences renewed pain and begs for its continuance.

Given as recommended, consciousness is never lost, questions can be asked and answered and directions understood and followed.

The subsequent effects upon the mother cannot be such as to play any important role in her convalescence, for not being given to complete anæsthesia, its influence must be less than after even a slight surgical operation. By virtue of the rest and relief from pain afforded during labor it ought assuredly to predispose to a more favorable convalescence, just as has been claimed for chloral.

Concerning the child, I am unable to find any report of injury due either to ether or chloroform, and therefore, although much time and space have been occupied in the attempt to determine whether the latter drug, as such, passes into the body of the child, I do not consider any discussion of the subject necessary.

With regard to the danger involved in the use of ether, the simple fact that in the nearly forty years and among the hundreds of thousands of midwifery cases in which ether has been used, not a single death has been attributable to it, would seem to be a sufficient reply to the question. Even chloroform, which counts its victims by hundreds in other than parturient cases, loses here its danger, as a careful search has revealed no

more than seven cases in which it proved fatal during labor. And yet see what Professor Depaul, of Paris, gives as his reasons for refusing anæsthetics to his patients:—

“(1) Because the employment of anæsthetics, in spite of what has been said to the contrary, is not always without danger and may kill the woman.

“(2) Because the anæsthetic sleep, in depriving her of her reason, does not permit her, in the great act which she is accomplishing, the participation which is almost always necessary.

“(3) Because the danger and the inconvenience mentioned are not compensated for by the advantages which result from the diminution or the cessation of pain.”

Now I submit that this reasoning is most sophistical. In the first place the danger is less than that attending a carriage or railway ride. True, it may “kill a woman,” but if it never has we are not to be frightened by any such absurd possibility.

Secondly, as advocated for the simple purpose of relieving the pains of labor, it is not necessary nor is it desired to deprive the patient of her reason.

Thirdly, the trifling danger, and quite as trifling inconvenience are vastly more than compensated for by the relief afforded. In other words, Professor Depaul must have been blinded by prejudice or something worse, when he wrote those words, and, in his high position, affording example and teaching to so many students of medicine, he has much to answer for as the cause of untold suffering that might safely and easily have been alleviated.

It is unnecessary to enter into any explanation of the singular immunity from accident during etherization exhibited by parturient patients. Many cases have been assigned, each of which undoubtedly is of value, though to my mind the most important safeguard lies in the method of administration. This method, which is probably familiar to you all and to which reference has already been made, consists simply in the intermittent inhalation of the anæsthetic. As the pain is felt approaching, the patient calls for the ether and takes several strong, deep breaths. As the contraction passes off she falls at once into a sleep from which she only arouses at the advent of a fresh pain. As has been stated, we wish to abolish neither consciousness nor sensation, only pain. The patient is aware of the contraction but does not suffer from it. She should be able to answer questions and carry out our directions intelligently. To this degree of anæsthesia Piachaud has given the name of *hypæsthesia*.

I would advise that in those cases in which an anæsthetic is indicated, chloral should be given if we have reason to think that the labor will continue more than an hour or two, especially if it still be in the first stage. Where prompt and not very prolonged effect is desired, ether is

indicated, as also in those cases in which, after a thorough trial, chloral has failed to give satisfactory results.

I believe that I am now in a position to announce the conclusion proposed at the beginning of this paper that, "having at our disposal substances capable of safely and effectively relieving pain without materially affecting the progress of labor, it becomes our duty as physicians, to at least offer to our parturient patients a mitigation of their sufferings."

Having thus arrived at a conclusion favorable to the use of anæsthetics in normal labor, this paper cannot better be brought to a close than by quoting Professor Barker's rule of practice and statement of results, as contained in a private letter to Piachaud. He says: "I employ chloroform in all cases except those very exceptional ones in which the pains are not sufficiently violent to cause its request. I have never, in any circumstance, had the least reason to regret having made use of it."

DISCUSSION.

Dr. Fifield, in opening the debate, said that the use of chloral in obstetric practice was comparatively new, and the results gleaned from *Dr. Kingman's* paper would lead him to use the drug more frequently than had been his custom. That the women to whom chloral had been given were less liable to hemorrhage was a strong argument in its favor.

Regarding the use of ether, he is inclined to take issue with *Dr. Kingman*. In years gone by he had used ether to a considerable extent in labor, but now he has abandoned its use largely, administering it only when he considers it absolutely necessary. He thinks it almost impossible to give ether in a moderate degree in child birth. The demand for it when once given is like the passion for drink. The woman will cry for it, and seize upon the sponge, and inhaling with greediness pass into profound stupor. If the physician demand the intelligent aid of the patient, he cannot gain it, for the effect of the drug does not pass off between the pains. *Dr. Fifield* mentioned the case of a woman with retained placenta. Ether had been heavily given in a most difficult forceps case. Hemorrhage had come on and the placenta not yet expelled. Nothing could induce her to remain on her side, or near the edge of the bed, or even to bend the knees, equally impossible to put her on her back at the edge of the bed. The situation was one of peril. The operator was thankful to have escaped from it with the woman safe, and his arm unfractured from the wild tossings of her great bulk. Until recently he had believed death from ether properly administered, impossible, but lately he had seen respiration so quietly cease that the intelligent gentleman standing at the patient's side had scarcely noticed it. Under the most active and protracted artificial respiration recovery ensued.

Dr. Wellington remarked that he agreed in opinion with the former speaker, that the free use of ether was not unattended with danger. He instanced the case of an elderly woman, who was undergoing an operation

for a uterine trouble. She was under ether, carefully administered when suddenly the pulse stopped. Brandy was injected subcutaneously, and other methods taken to revive her. Fortunately she recovered; but matters looked badly for a time. This is the only case in which he had used ether, when the results seemed in any way likely to be serious.

He was surprised at the statment made by the reader that ether never stops labor pains. He certainly has seen cases where it did stop them, even when administered in small amounts, and where its use had, on this account, to be continued.

When ether is once given, as already remarked, a woman becomes sometimes so unreasonable and unmanageable as to occasion great embarrassment. This is a serious evil and deserves special mention in this connection.

Dr. Wm. L. Richardson expressed his regret that he had not heard the the first part of the paper, and that he must disagree with the reader in some of the conclusions at which he had arrived. In private practice he of course gave ether if the patient desired it, but if the management of the case was left to his own judgment he did not use it in the course of a natural labor. He had never been able to obtain the results which *Dr. Kingman* described; namely the relief of pain without at least a partial loss of consciousness. During the first stage of labor he had been in the habit for a number of years, both at the Boston Lying-in Hospital and in private practice, of using chloral, and in the great majority of cases with very satisfactory results. The use of ether in the second stage, in his opinion, lengthened the labor and predisposed the patient to occurrence of post-partum hemorrhage. He agreed fully with the statement made by *Drs. Fildes and Wellington*. If it was thought best, however, for any reason to use ether, or if the patient in private practice desired it, he had always been in the habit of giving it as *Dr. Kingman* had described, which, so far as he knew, was the usual method of using it in obstetrical practice.

Dr. Kelly said that as obstetric practice was chiefly in the hands of the special accoucheurs in Dublin, his experience was comparatively limited, but he had had more opportunities of observing the effects of chloroform than of ether when administered during parturition, and he considered that even in moderate quantities the former diminished the vigor and the duration of the uterine contractions. In Ireland these agents were only used in obstetrics when demanded by the exigencies of the case. In surgical practice his experience, both of chloroform and ether, was very extensive, and on one occasion he had the misfortune to lose a patient during chloroform anæsthesia. Although he had seen imminently dangerous symptoms arise from ether he had never witnessed a fatal termination. He had observed that in patients who did not readily respond to the influence of ether, the alarming symptoms were due to the

tetanic spasm of the respiratory muscles rather than to cardiac depression.

Dr. Swift said he preferred to use chloral in normal cases, giving it in the first stage. He was unable to get the effects spoken of by *Dr. Kingman* from the use of ether in small doses, it on the contrary rendering the woman uncontrollable, so that he seldom used ether except in cases requiring an operation where the full anæsthetic effect was desired.

Dr. Draper stated that his practice had been to withhold ether until the closing pains of the second stage of the labor, when, as the head emerged from the vulva, the woman's sufferings most urgently demanded relief, and when the progress of parturition could not possibly be retarded by the anæsthetic. Judging by the usual experience in the administration of ether in surgical cases, the exhilarating effects of ether given as the reader recommended, would prove on theoretical grounds, a drawback rather than an aid.

Dr. Hodgdon considered that ether, when given in sufficient quantity to ease pain, retards labor. His practice is to administer ether when the head is about passing the perineum, if the woman demands it. He has never seen post-partum hæmorrhage resulting from its use, and thinks the safety of the perineum is promoted by that course.

Dr. Barnes stated that he had always permitted the woman to hold the sponge, and when she was sufficiently under the influence it would drop from her grasp. Never had he thought that labor was retarded in cases where he had used it, and the amount used was absolutely under his control, thus securing the degree of anæsthesia. The alarming effects noticed by *Dr. Fifield* in two cases, one where chloroform, the other where ether was used, would be more instructive had the patient under ether been subjected to the close observation at the time respiration ceased, as was practised in the chloroformed case.

Dr. Reynolds said, of what use is it to speak of the acknowledged dangers from the administration of ether. Post-partum hemorrhage is the result of exhaustion, and nothing tires a woman so quickly as pain. Relieve the pain with ether and you prevent the exhaustion. It is criminal not to use it in a moderate amount. If a woman in labor is brought in from the street and has post-partum hemorrhage, it is from exhaustion and not from ether. One of the most eminent accoucheurs, *Fordyce Barker*, gives ether in every obstetric case which he attends, and, as yet, has not had a case of post-partum hemorrhage.

Dr. Reynolds said that a rigid os with the head pressing upon it will dilate in five minutes under ether, which should be given till the patient snores. If the pains ceased or greatly diminished he would withdraw the ether. Much worry and uneasiness is caused by the notion being advanced that ether causes post-partum hemorrhage. Ether does delay the labor to a slight extent, but not for years has he found it necessary to

withdraw the ether after he has commenced its administration. Why let the woman suffer, even if the ether does delay the labor one-half hour. It is the duty of the physician to remain by his patient and watch the uterus, and post-partum hemorrhage will not occur. If ether is given cautiously it will not check the pains.

In reply to a question by Dr. Broughton, Dr. Reynolds said that the new method, as it is called, of giving ether, is to administer it during the first and second stages when the woman is likely to become exhausted and when other remedies do not act. So long as uterine contractions are recurring he continues the ether, resting between the pains. His method is to keep his finger in the vagina and give the ether when he feels the uterus contract.

Dr. Temple remarked that he tried the plan, recommended by Dr. Kingman, in six cases, and in none of these had there been the least difficulty in restraining the patient, and the results had been beneficial.

Dr. Bundy said that he always permits the patient to hold the sponge herself, and in the intervals between the pains he removes it. He has never had the least trouble.

Dr. J. R. Chadwick stated that he was in the habit of allowing his patients to inhale a few whiffs of ether during the pain in the expulsive period of the labor, as recommended by Dr. Kingman, for the purpose of alleviating their sufferings. And at this time and in this way ether did not seem to retard the delivery appreciably or to predispose to subsequent hemorrhages. He saw no reason for the reader's practice of withholding the ether during the most painful stage of all—the expulsion of the head from the vulva. At that period it was specially desirable to prevent any straining on the part of the patient so that the head shall emerge very slowly between the uterine contractions, when the obstetrician has absolute control of the speed at which the head should advance. By the aid of ether at this time there is much more certainty of escaping rupture at the perineum. To patients who are frail or exhausted in the earlier stages of labor and are clamoring for the relief to suffering afforded by ether he is very loath to administer it, because it is very hard to intermit its use subsequently, because the momentary anæsthesia, obtained from a few whiffs at a later stage, rarely suffices, because a more profound etherization certainly interrupts the frequency of the pains and thus retards the labor, and because he does not feel assured that the deeper and more prolonged anæsthesia may not predispose to flooding. This last effect he does not, however, regard as well attested.

In the earlier stages of labor when a patient's condition of exhaustion demands rest from her travail he is more disposed to rely upon chloral or even subcutaneous injections of morphine, which latter drug will completely interrupt the progress of the labor for five or six hours.

Dr. Reynolds remarked that he did not wish it to be understood that

he always gives ether in the first stage of labor, for he seldom administers it at that time, but commences when the woman's sufferings are severe. Rest in the intervals between the pains is very important, and much is gained if the woman shall fall asleep between the pains.

Dr. Fifield thought that there was a spice of sophistry beneath the music of the oratory of *Dr. Reynolds*. The word that had fallen from the lips of the venerable *Barker* was one of terror. It was exhaustion! No word, says one of the fathers of the Obstetric Art, is so much abused as the word "Exhaustion." Like *Figaro*, it is here, it is there, it is everywhere. As to flooding, to say that it is the result of exhaustion is absurd. Who that remembers long protracted forceps and craniotomy cases has marked that they were followed by flooding? Hemorrhage comes to the stout, to the feeble, to the strong, to the well-fed and the ill-fed alike. Who can predict it? Has it not followed the easiest labors as well as the most protracted? Nay, even more frequently? The testimony of the best obstetricians among us is that etherization tends to bring about flooding, and no eloquence can gainsay that testimony.

Dr. Kingman in summing up, said he could not understand the difficulties mentioned by several of the gentlemen who had taken part in the discussion. In his hands ether had never failed to relieve suffering, even when given in the small doses advocated, and he had never observed the uncontrollable "passion" for ether. He was accustomed to make use of an Underwood Inhaler, which permits accurate estimation of the dose. This the patient is allowed to hold, the desired effect being attained by regulating the dose of ether for each pain.

The stage at which ether is to be given must depend upon the exigencies of the case. If much time is to elapse before delivery, he gives chloral, if not, or if chloral fails to give relief, he administers ether. Humanity demands it.

He does not advise stopping the ether when the head is passing the vulva, but that it be partially withdrawn if necessary to insure the entire coöperation of the patient. If the pains are extreme or the patient is unruly he pushes the ether to unconsciousness.

Dr. Chadwick exhibited a sessile fibroid tumor as large as a pear which he had enucleated from the posterior lip of the uterus the day before. Being uncertain as to the depth to which the tumor was imbedded in the tissue of the uterine wall he had adopted the expedient of splitting the tumor with the bistoury, extending the incision above the apparent line of insertion of the cervix; then making a transverse incision through the attenuated cervix down to the fibroid at a point lower than the point to which the central incision of the tumor extended, he passed the handle of his bistoury between the uterine tissues and the fibroid, and readily enucleated the tumor from its bed. By this method of procedure he had escaped the common difficulty experienced in such operations of determining where to cut so as not to take away a portion of the cervix, or to leave a portion of the tumor. There was no appreciable hemorrhage.—*Boston Med. and Surg. Journal.*

Abstracts and Selections.

I. — OBSTETRIC.

Remarkable Fecundity.—The following was presented to the Wayne County Medical Society, August 3, 1885, by C. Henri Leonard, M.D. :

A former intimate friend of one of my present patients died at the age of 19, and left six living children. She was married when 13. At no time were twins born to her. She was a young lady of robust build, in the earlier years of her life, but the continual drain of child-bearing soon reduced her to the average "living skeleton" seen in our side-shows and museums. Her children were all well formed, plump, and remarkably healthy, in spite of the unfavorable condition of the mother. She died really of premature old age and exhaustion from the bearing of her numerous children.

This, I think, is a more remarkable case than the noted one of Dr. F. P. Atkinson, and reported in the *British Medical Journal*. His case was as follows: The woman was married at the age of 16, and died at the age of 64. She had borne thirty-nine children, all by the same husband, and all survived her. They were all single births, except two pair of twins. Thirty-two were girls, and seven were boys.

I have at present a little patient, scarcely eleven years old, who has been menstruating regularly for some six or eight months. This is very unusual for this climate. In France, Spain, or Italy such early maturity is not uncommon; but for our country it is very unusual. This young lady has always resided at the North, and nearly all of her time in Detroit.

Michael Hazzard, of Monticello, Platt county, "a wounded soldier of the late war," sends to the *Washington Republican* a picture of five children produced at one birth by his wife, an American woman, thirty-seven years of age. The husband, who is also a native of Indiana, and fifty years old, thinks himself entitled to a premium, believing no other man is able to show a picture of five babes born at once. As to this claim the *Republican* disabuses his mind by the following statement:

The prolific powers of some individuals among mankind are very extraordinary. Instances have been found where children to the number of six, seven, eight, nine and sometimes sixteen have been brought forth at one birth. The wife of Emmanuel Gage, a laborer, near Valladolid, was delivered the 14th of June, 1799, of five girls. The celebrated Tarsin was brought to bed in the seventh month, at Argenteuil, near Paris, 17th of July, 1799, of three boys, each fourteen and a half inches long, and a girl twenty-three inches. They were all baptized but did not live twenty-four hours. In June, 1799, one Maria Ruiz, of Lucena, in Andalusia, was successively delivered of sixteen boys, without any girls. Seven of them were living on the 16th of August following.

In 1535 a Muscovite peasant named James Kyrloff and his wife were presented to the Empress of Russia. This peasant had been twice married, and was then seventy years of age. His first wife was brought to bed twenty-one times, namely four times of four children each time, seven times of three, and ten times of two, making in all fifty-seven children, who were then alive. His second wife, who accompanied him, had been delivered seven times, once of three children, and six times of twins. Thus he had seventy-two children by his two marriages.

The following, bearing on the subject, is clipped from a New York paper :

A lady residing at Nunda, Livingston county, New York, has given birth to twenty-seven children, including five pair of twins, during her married life.—*Leonard's Medical Journal*.

The Death-Rates from Childbirth and Cancer: Value of Antiseptics in Midwifery.—Henry Gervis, M.D., F.R.C.P., delivered the following address at the opening of the Section of Obstetric Medicine at the annual meeting of the British Medical Association and published in the *British Medical Journal* :

My first duty to-day, gentlemen, is to express my grateful sense of the honor done me by the Council of our Association in inviting me to occupy this chair, and my next is to express the hope that our meeting, on this occasion, may not be less pleasant to ourselves than useful for the promotion of that department of science in which we are specially interested. Fortunately for me, my present duty is simply to offer a few remarks by way of introduction to our work, and not to give one of those more formal and important addresses, such as this year are devoted to Therapeutics, Surgery, and Public Medicine. It is in some quarters rather the fashion to decry these annual meetings from the point of view of science, and to insist that the festive element much preponderates over the scientific; but, while not disavowing the holiday character which in part these gatherings have—and, indeed, as I know has been the case in more than one instance, these annual meetings have been, for some of one's medical friends, the only relaxation in their year's work—yet I am satisfied that, meeting men from other towns, and hearing their views and experience, is a very considerable advantage, and one not lightly to be put on one side. In meetings of societies in any one locality, one naturally gets to know pretty much what every one will say before he speaks; but in these meetings, drawn from the three kingdoms—and I am not sure that, speaking in Cardiff, I ought not to say the four kingdoms—new thoughts and observations are brought forward, and fresh views of possibly familiar truths enunciated, and thus some may learn much, and all may learn something. Such, at least, has been my experience; and reading in the *Journal* afterwards the brief account of the

discussions which, with the pressure on its pages, is all of course which the *Journal* can admit, very inadequately supplies the place of personal attendance on these occasions. In discussing, therefore, the subjects arranged for our consideration, may I venture to invite all present to favor us with their experience and opinions on such points as may appeal to their personal observation and thought? and in this way we shall, I am certain, leave this meeting all the better equipped for that contest with disease it is our high privilege to be perpetually waging. And in this contest, gentlemen, I am happy to think, we are gradually, but surely, gaining ground.

In my holiday last autumn, and little thinking it would afford me matter for comment on such an occasion as this, I was reading a paper by my friend, Dr. Longstaffe, on the recent decline in the English death-rate, considered in connection with the causes of death—a paper of much importance and interest, read before the Statistical Society in March, 1884. In this paper, Dr. Longstaff states that, from 1838 to 1875, inclusive, the death-rate averaged 22.3 per 1,000; but that, during the eight years 1876 to 1883, it has averaged only 20.3. He then proceeds to discuss, from the tables of the Registrar-General, the variations which have occurred in the causes of death; and, among others, he gives certain statistics as to the deaths from childbirth and cancer, on which I shall venture to make two or three remarks on this occasion. The deaths from childbirth and childbed-fever, in the ten years from 1861 to 1870, averaged 60 in every 100,000 women living between the ages of 20 and 55; during the five years, 1876 to 1880, they fell to 53. A drop to this extent, though not perhaps in itself very considerable, is yet, I venture to think, distinctly encouraging; and, if the statistics of the next quinquennial period, which ends with this year, be equally favorable, a sensible inroad will have been made upon that large mortality which, up to so recent a period, has occurred in connection with childbirth—a mortality, I may remind you, estimated some years ago, by Dr. Matthews Duncan, as reaching in this country one in every 120 women confined at or near full time, and by Dr. Lusk for America as approaching one in every 85 confinements. And I would venture to say, gentlemen, without hesitation, that, before many more years have passed, this mortality will be still further distinctly reduced. There are, doubtless, more factors than one in the production of these favorable results, such as the more early use of the forceps in lingering labor; the more frequent induction of premature labor in cases of contracted pelvis; the better treatment of eclampsia; and the better treatment, prophylactic and actual, of *post partum* hemorrhage. But the greatest gain has, I think, without question, been in the practical development of the principles of antiseptis. Just in proportion to the recognition of the part played by germs in the convection of disease, and to the success of the efforts made

to exclude and neutralize them, will be gained, I am confident, the increasing improvement for which we yet strive in the death rate from childbirth.

I do not for a moment propose to enter, at any length, upon the subject of puerperal fever; that was done last year, and far better than I could do it, by Dr. G. Kidd, of Dublin, in his address at the Belfast meeting; but I should like to take this opportunity of saying that, while too much stress cannot be laid on the importance of antiseptics after confinement, too little notice has, I think, been taken by most writers, and, by many, none at all, of the not less important subject of antiseptics before and during labor. The consideration of antiseptics before labor has to do with questions of drainage, ventilation, and general health; in a word, with the hygiene of the house and of the individual. The better the patient's surroundings, and the better her health, the fewer will be the sources from which germs may spring, the better able will she be to resist their entrance, and the less likelihood will there be of their development from within. Speaking generally, that is to say, surroundings have chiefly to do with heterogenetic sources of infection, and the patient's health with the autogenetic. The more sanitary the surroundings the fewer the germs; the better the health, the less likelihood will there be, on the one hand, of the tissues of the genital passage succumbing to pressure if labor should chance to be unduly protracted; or, on the other hand, of a relaxed uterus permitting retention of coagula which may become the starting points of a septic toxemia. Antiseptics during labor has been sought in Germany by the conduct of labor under the spray. This, we venture to think, is not easily practicable, and not free from risk by the condensation of carbolyzed vapor on linen and person; and even if practicable, not absolutely satisfactory as a safeguard; but, during the course of labor, although not in this way, the principle of antiseptics should never be lost sight of. In every case, the hands of the attendant should be washed in carbolyzed water before he proceeds to examination, and both before and after the labor the vulva should be sponged with warm antiseptic solution; and if the case tend to be tedious, though not sufficiently so to necessitate forceps, it is advantageous to sponge out the genital canal from time to time with a similar solution. In all operative cases, I need hardly say it is now customary to dip the instruments in hot carbolyzed water; but I am satisfied it is also most useful to sponge out with the same solution the genital canal prior to their application. In a labor in which the forceps, and *a fortiori* where craniotomy is demanded, there has, at least very often, been sufficient delay to lead to a septic condition of the discharges; and the removal of these by sponging much diminishes the chance of subsequent infection, should any breach of mucous surface occur as a result of the delivery. So also, in the induction of premature labor, the vagina should

be antiseptically cleansed before the use of the bags; and between the removal of one and the introduction of the next, the same precaution should again be taken. In cases of placenta previa, again, it has been my custom for some years, in addition to such antiseptic measures as I have already indicated as appropriate in every case, to mop the uterine surface from which the placenta has been detached with a solution of the perchloride of iron. In the first instance, I did this to check the post partum hemorrhage which often occurs from the placental site in previa cases; but I believe that not only has it this virtue, but that it acts antiseptically as well, both by its influence on the bruised surface-tissue, and by its astringent effect on the avenue of entrance for germs, avenues which, on account of the cervical position of the placenta, are also more accessible to germs than where its implantation is fundal. In all cases of version, I need hardly say that, when the hand has to be introduced into the uterus, not merely the hand, but the arm also, should be sponged with carbolized water before its introduction; and, lastly, in cases of miscarriage, where it may be necessary to resort to manipulative proceedings, whether for the removal of the entire ovum, or of a fragment merely of retained placenta, careful attention to antiseptic details immensely lessens the subsequent risk of pelvic inflammation and systemic infection.

Another and scarcely less important department of the antiseptic treatment of labor is undoubtedly the management of its third stage, although in but few text-books is it looked at from this point of view. But securing adequate contraction of the uterus by the plan of Credé, and so ensuring at one and the same time the complete expulsion of the placenta with its membranes, checking any tendency to the formation and retention of coagula, and promoting the closure of avenues of entry for germs, is, from the point of view of antiseptics, no less than from the point of view of the prevention of hemorrhage, a proceeding of the first importance; and of this we shall doubtless hear further in the discussion to be opened on this subject.

Of antiseptics after labor I need hardly say anything, so well established is the conviction of its importance, and so well known the details by which it should be accomplished; but I should like to avail myself of this opportunity to lay much stress upon the utility of an uniform and careful inspection of the genital outlet after every labor, and to urge the importance of its being regarded as much a matter of routine as placing the hand on the hypogastrium or feeling the pulse. I believe that, if this were systematically done, and any tear, however slight, treated antiseptically, either by carbolic oil or by iodoform, cases of septic infection would be very considerably diminished in number. Of antiseptic solutions for irrigation-purposes, I should like to say a word in favor of the mercuric chloride solution. In a strength of one in 2,000 for injection,

and one in 1,000 for washing purposes, it is certainly of the highest value. That it must be used with caution, is doubtless true; but it is also true of carbolic acid, and, with but few exceptions, when symptoms of poisoning have occurred, they have been but slight and transient. The solution of boracic acid, in a strength of 10 grains to the ounce, is also of much value. It is not, perhaps, so powerful an antiseptic as the sublimate solution; but for the vaginitis which accompanies the lacerations it is particularly soothing.

Before passing from this brief reference to the ever engrossing subject of puerperal fever, I should like to call attention to the admirable series of questions relating to the subject drawn up by the Collective Investigation Committee of our Association. Such a mass of evidence ought to be forthcoming, on every one of the seven questions proposed, from the wide-spread members of this great Association, that the task of future writers on the subject should be greatly simplified, and much less of the uncertain remain. Were it not, indeed, for the disappointing influence of the twin fallacies of non-observation and mal-observation—fallacies which, even in such an Association as ours, we can hardly expect wholly to escape—we might fairly hope that the subject of puerperal pyrexia might be finally placed before another meeting on absolutely undebatable grounds.

The other cause of death to which Dr. Longstaff refers, and which, it struck me, it would be interesting to shortly bring before you, is cancer. Cancer, he says, has increased 38 per cent. in males, and 24 per cent. in females. the greater increase in males being probably due to the fact that cancer of the stomach and liver, which is commoner in man than woman is much more difficult of diagnosis than cancer of the female breast or of the uterus, and hence improved medical skill affects the returns for it more. On the other hand, a recent writer in the *British Medical Journal* Mr. H. P. Dunn, quoted by Longstaff, says "he is convinced that the long continued and steady increase of cancer is not apparent only, but is an undoubted fact;" and, in this conclusion, other writers on the subject, entirely concur. The success, therefore, which I have just been speaking of as attending our obstetric work, has not followed us in our treatment of cancer. Dr. Longstaff's suggestion that part, at all events, of the increase may be due to better diagnosis, may, perhaps, hold good as regards cancer in the male; but cancer in the female, chiefly affecting, as it does the breast and uterus, has long been within the limits of a definite diagnosis. My own experience, nevertheless, makes me hopeful that we shall yet be able to diminish the increasing mortality, and, so far as I can judge, it will be by earlier diagnosis and earlier treatment. Believing, as I do, in the local origin of the disease, I believe that, in cases where the local disease can be effectually extirpated, there is good ground for hope that it may not reappear.

In the interesting paper read by Professor Esmarch at the Copenhagen Congress, on the operative treatment of malignant affections of the rectum, he gives a long list of authorities who have published cases of "permanent recovery" after surgical treatment. And my own experience, and not mine only, but that of many other operators, is equally clear as to the permanent gain from the early and adequate local treatment of uterine cancer. In the debate, for instance, which took place at the Obstetrical Society early in this year, on the subject of the extirpation of the entire uterus for cancer, the majority of the speakers, while condemning the operation for advanced cancer of the body of the uterus on account mainly of the nearly insuperable difficulty there is in removing all the disease, and equally condemning it for cancer of the cervix, both on account of the tendency of the disease to spread laterally into the surrounding tissues, and on account, also, of the absolutely better results obtained by other treatment, yet agreed all but unanimously that the extirpation of cervical cancer by supravaginal amputation, or one or other of the methods which combine the use of the curette with the chloride of zinc paste at an early stage before infiltration of the neighboring tissues had occurred, had been, in their experience, in repeated instances, of lasting benefit, and with this my own experience concurs. The diagnosis of early cancer is undoubtedly in many cases, attended with difficulty; but I would venture to press the more general adoption of microscopic observation as an aid of the first importance. Not very unfrequently, also, early treatment is hindered by the fact that early symptoms are so slight that the disease may have seriously advanced before even the patient's attention has been attracted to it as a matter that is of any importance, and of this I have seen many remarkable instances.

While saying just now that I believed in the local origin of cancer, I wish also to admit to the fullest the influence of heredity in its production. The precise part which heredity plays as a factor in pathological evolution, and its relation to its co-factor of environment, is a problem of the deepest interest. Does heredity act, for instance, by providing such appropriate "cultivation fluids" in the system that on the occurrence of local disease special facility is offered for the diffusion and development of the malady by germ multiplication? Or is the influence of heredity in pathogenesis simply neurosal, and, instead of offering a *plus* condition as regards the character of tissue fluids, does it offer simply a *minus* condition as regards the resisting and controlling power of nerve supply? Whichever view or what other view may be taken of the influence of heredity, it is not unphilosophical to look upon some diseases as under its influence and others not.

In the evolution of disease as in the evolution of the organism, the same two factors, heredity and environment, which we have been taught

by Darwin to consider the two master influences of the organic world, are probably the ruling influences also. In some cases heredity may be active, but the environments being favorable the individual may escape; in others, in spite of an unfavorable environment, the influences of heredity may be sufficiently favorable to discourage the development of disease, and in others again both heredity and environment may combine to favor particular pathogeneses.

I ought, perhaps, to ask pardon for this slight excursion into the region of the speculative; but if the definite laws which Prof. Darwin has expounded as operative in the sphere of organic life should be found equally influential in pathology, the gain could scarcely be over estimated. One further quotation from Dr. Longstaff's statistics will be, I think, of interest to those of us who practice specially in this department.

"It is quite plain," Dr. Longstaff writes, "that the recent fall in the death rate favors the accumulation of surplus women," and should the change of mortality go on in the same direction, the rate of accumulation will be increased. In 1851 there were 104.2 females to every 100 males; this proportion has risen gradually until it now amounts to 105.5, and should the resources of our speciality continue to develop as they have done of late years, this ratio may still further increase. Other facts also point in the same direction. Forty years ago, for every 100 female children, 104.8 male children were born, but now the number is only 103.9.

Evidently, therefore, gentlemen, there promises to be no lack of material for our special work; and at each succeeding annual meeting I have no doubt that we shall have to record in our department some fresh facts discovered in pathology and some distinct advances made in therapeutics. And both new facts and better treatment must come to us, I think, through a closer study of anatomy, healthy and morbid. We have the advantage on this occasion of the official aid of Dr. Berry Hart, whose atlases of the pelvic regional anatomy have had untold influence in improving the scientific status of obstetric and gynecic work. And a similarly close study of pathological changes, at all events in gynecology, is one of our most pressing needs. So many of the maladies for which our advice is sought are not fatal in their character, often little more indeed than sources of local discomfort and general illhealth, that our views are apt to be based on clinical observation, merely, and not rectified by post mortem research. If, for example, the precise morbid anatomy of flexions had been worked out, would it be possible for one set of writers to think the condition of flexion the foundation of nearly every ill to which women are subject, and another that a flexion is scarcely abnormal at all? And as a quite recent illustration of the same need, I may refer to the discussion at the June meeting of the Obstetrical Society on serous perimetritis, a malady of much graver importance than flexion,

in which it was evident that even on the primary question of diagnosis there was much to learn that could only be learned by careful necroscopic research.

In the puerperal diseases; on the other hand, very much has been done by way of attention to morbid anatomy, and it is to this, I think, we are chiefly indebted for the great stride made in our scientific knowledge of their course and results. In discussing puerperal fever we feel, thanks largely to the researches of morbid anatomy, that we are now treading on far surer ground than was possible but a few years ago, although still, as to the nature of the poison whose pathway we can track, we have much to learn. And we may fairly hope that with the aid of the many scientific observers now at work in our department of medicine, before long similar and equally appreciable progress will be made in the morbid anatomy of the uterus and its appendages.

But, gentlemen, I must detain you no longer from the real work of the Section. You must be anxious to hear the papers promised by the distinguished men who honor us by their presence to-day, and the subjects they have selected are of no less vivid interest than of practical and far-reaching importance.

AS AN example of fertility *Lyon Médical* cites the case of a peasant woman who has brought forth 27 children, of whom 25 are alive and healthy. Six of this number are girls. Her best year of labor was the one in which she produced five children, three on January 2d, and two on December 27th. She is now 63 years of age and her husband 73.—*Boston Med. and Surg. Journal*.

The Influence of Age Upon Labor in Primipare.—Kleinwächter (*Zeitsch. f. Geburtsh. u. Gynäk.*), after analyzing the statistics of nine hundred and twenty primiparous cases, which were recorded at the Innsbruck clinic, the patients varying in age from sixteen to forty one years, draws the following conclusions:

1. As a rule, the greater the age at which conception occurs for the first time, the older the individual when menstruation began.
2. The reason of this is to be found, at any rate in part, in precedent disturbances in the ovulation process.
3. Pain occurring either with the first menstruation, or in a subsequent one soon after it, among those who begin to menstruate at a period which is later than the usual one; likewise irregular menstruation, and pain during coitus, which renders that act imperfect, are causes which tend to retard the period when conception first occurs. These factors are most potent in women of an advanced stage of life, less so in those who are midway in the child-bearing epoch, and least among very young women.
4. Pathological conditions which have no immediate relations with the pregnant state interfere with conception least frequently in young women, but very commonly in older

ones. 5. The pain and annoyance attending the pregnant state are most common with very mature primiparæ, and less common with primiparæ of the middle than of the earliest stage. 6. Hemorrhages during pregnancy occur most commonly among the young, least commonly among the old. 7. As to an increase in the quantity of liquor amnii, age does not seem to be a determining factor. 8. The duration of labor is most frequently prolonged beyond the normal time among old primiparæ. 9. Inexpulsive and ineffective pains are most common among primiparæ of the latest period. 10. The forceps is most frequently called for with those primiparæ who are more than twenty-nine years of age. 11. Though the duration of labor is longer with old primiparæ than with young ones, it does not follow that this is an inevitable and unvarying fact. 12. (This proposition simply qualifies its predecessor). 13. The percentage of mortality in primiparæ following forceps operations increases in the same ratio with the age. 14. The older the primipara, the more likely is the perineum to be torn. 15. The older the primipara, the greater the probability that post-partum hemorrhage will occur. 16. Increase of age brings increased predisposition to kidney troubles. 17. The same rule applies in regard to oedema. 18. The older the primipara, the less the probability that she will suffer with inflammation of the breasts, or that she will be able to nurse her child. 19. Old primiparæ are most frequently the subjects of puerperal fever; least frequently affected are those who are between twenty and twenty-nine years of age. 20. The same rule holds in regard to puerperal mania. 21. Equally true is it in regard to morbidity and mortality with reference to puerperal diseases in general. 22. The same rule obtains in regard to spontaneous abortions; the older ones are most frequently the sufferers. 23. Abnormal presentations are most frequent with old primiparæ. 24. As to the narrow or deformed pelvis, age has no bearing on the question. 25. The older the primipara, the greater the probability that the offspring will be a boy. 26. The children of old primiparæ are apt to be heavier and longer than those of young ones. 27. The older the primipara, the more likely is she to give birth to twins. 28. The same is true in regard to deformed offspring. 29. Also the rule applies in regard to the vitality of the offspring.—*N. Y. Medical Journal*.

II.—GYNICIC.

Dysmenorrhœa.—A Clinical Lecture Delivered at the Chelsea Hospital for Women, by Fancourt Barnes, M.D., M.R.C.P., and published in the *Medical Press*.

When the menstrual function is performed with difficulty and pain, the condition is described as dysmenorrhœa. The chief conditions of the uterus and its appendages which may give rise to it are as follows:

1. Neuralgia.

2. Congestion or inflammation.
3. Mechanical or obstruction.
4. The formation and expulsion of membranous casts.
5. Some forms of ovarian disorder.

Every woman suffers to some extent during menstruation. It is only when pain is excessive that it is regarded as dysmenorrhœal. The term neuralgic dysmenorrhœa has been retained, and is still used to describe those cases in which no tangible disorder of the uterus or its appendages can be verified. If, however, the uterus and ovaries were healthy there would be no difficulty in the discharge of their functions. The symptoms however, are obvious enough, though it may be impossible to recognise a definite cause. The menstrual epoch may be ushered in by such intense pain that the patient is compelled to take her bed. The abdomen is often tender to the touch. The reflex symptoms which may evoke, are of a neurotic nature. Vomiting, hysteria, hiccough, headache, delirium, and even mania may occur. These urgent symptoms decline, in a few days, and the patient is relieved until the reappearance of the same train of symptoms at the next menstrual epoch.

Now, although in the first instance no obvious organic change can be detected in the uterus, it is certain that long-standing dysmenorrhœa must eventually induce some tissue change. In the treatment of dysmenorrhœa, which is regarded as neuralgic, our prolonged object should be to improve the general health of the patient. This may be attempted by the administration of the various tonics—iron, quinine, arsenic, and phosphorus. During the paroxysms of pain it becomes imperative to give relief by some sedative commensurate in power to the degree of pain. Musk, camphor, assafœtida, and bromide are useful in some of the milder hysterical forms, but when the agony is intense chloral and opium alone afford relief. It is sometimes necessary to place the patient under influence of ether or chloroform to give temporary relief to pain which has become insupportable. The local treatment consists in application of hot fomentations to the abdomen and the use of warm douches. In some cases the treatment by massage and diet, recommended by Dr. Weir Mitchell, yields extraordinary results.

Congestive Dysmenorrhœa depends upon some change in the condition of the uterus itself or its appendages. In the true congestion form the pain precedes the flow of the menstrual discharge, and is relieved by its appearance. Various states of the general health may induce it such as general plethora, constipation, and impeded portal circulation. Exposure to damp and cold during menstruation may arrest the flow, and has frequently been the starting point of subsequent menstrual irregularities. The local causes are several displacements of the uterus, chronic metritis, thickening of the uterus, and the various forms of perimetritic inflammation which restrain the natural movements of the uterus, and

thus produce congestion. The treatment must depend on the condition which produces the symptom. In plethoric subjects the administration of mercury in the form of blue pill or calomel alternated with some other purgative, either saline or vegetable, will relieve the venous congestion in the pelvis and afford relief. Regular exercise and restricted diet, if persevered in, will effect a permanent cure. When the dysmenorrhœa is due to sudden suppression of catamenia from a chill or catching cold, warmth and rest are the means to be employed. Warmth may be applied locally in the form of hot vaginal douches or hip baths. Rest and warmth by placing the patient in bed. The pain and tendency of inflammation call for sedatives, these may be one or other of the forms of opium, and may be given by the mouth or rectum. Morphia suppositories are always useful where there is pelvic pain and congestion. If the congestion results from displacement of the uterus, the application of a Hodge pessary replaces it in position, and allows the natural flow to proceed unchecked.

In a large proportion of cases the dysmenorrhœa results from *obstructed excretion*. There is a narrowing of the os externum with or without a projecting vaginal conical portion. The small os uteri is usually associated with a conical vaginal portion of the cervix. The obstruction of the flow of the secretion from the interior of the uterus, is, in most cases, at the external os. There are cases where there is spasmodic contraction at the os internum, but these are infrequent. They are revealed by the passage of the sound. On withdrawing the sound in such cases it is felt to be seized and held by the muscular contraction at the seat of the internal os. The length of the conical cervix varies; it may project half an inch, an inch, or even as much as two inches. The excessive length is generally due to acquired hypertrophic elongation. The uterine sound sometimes can only be passed through the external os with difficulty. Once inside the cavity of the cervix its onward progress of the fundus uteri is unopposed. The cervical cavity is distended by the accumulation in it of the pent up secretion of the cervical glands. Although the secretion of the cervical glands of the uterus is a thin fluid gelatinous substance it is unable to escape freely through the narrow os externum. Now, if the small os externum is sufficient to prevent free exit of a secretion which does not clot but always remains in a fluid condition, how much more easily can it imprison the menstrual secretion which easily clots and loses its liquid form. If a conical cervix is seized by a vulsellæ or tenaculum and the anterior and posterior surface put on the stretch, the small round os is opened a little and some of the imprisoned cervical secretion is at once seen to escape. When the os externum is cut across an escape of a large quantity of the secretion always occurs.

The consequences of the obstruction just described take place in an ascending order above the seat of the obstruction :

1st. The cervical cavity becomes enlarged by continued distension by the pent up secretion, this aids hyperplasia of the vaginal portion.

2nd. Congestion and enlargement of the body of the uterus follow, disposing to menorrhagia, and causing uterine spasm and colic.

3rd. A similar condition of the Fallopian tubes may result.

4th. Congestion, enlargement, and inflammation of the ovaries may ensue, determining hæmatocele, or pelvic peritonitis.

When the patient enters married life fresh consequences usually are added; increased congestion and inflammation of the body of the uterus, increased ovarian irritation, increased tendency to menorrhagia, acute and chronic cervicitis with leucorrhœa, abrasion of the os uteri, vaginitis, vaginismus, dyspareunia, and sterility. There is very often in such cases a history given by the patient of one or more miscarriages. On investigation it will be found that the passage of clots accompanied by menorrhagia has been mistaken by the patient for abortion. The menstrual secretion has been retained in the uterus, become clotted, and then expelled with much pain resembling an abortion. The symptoms of dysmenorrhœa from obstructed excretion are as follows:

The pain commences as a heavy aching sensation before the flow appears. The seat is in the pelvis spreading to the groins and legs. As the flow appears the pain may diminish, but more frequently it assumes an expulsive character, due to the spasm from the passage of the clots. The constitutional reactions are severe. Vomiting, prostration, and pain, of such a violent nature as to cause the patient to roll on the floor may be present. It is natural that continued recurrence of such symptoms month after month end in wearing out the health and strength of the patient, and reducing her to a state of chronic invalidism. The above array of symptoms, however, is by no means exaggerated. Similar symptoms may arise from the obstruction caused by flexion of the uterus forwards or backwards, India-rubber tube, and yet this has been denied. The treatment of destructive dysmenorrhœa lies in the enlargement of the os externum, and in the case of spasmodic contraction of the internal os externum and in the case of spasmodic contraction of the internal os by division with the metrotome or dilation with bougies. To begin with the treatment by dilatation. It has been a common practice to dilate the cervix with sponge, or laminaria tents. If this is done it is best to apply the tent the last thing at night, and remove it early the next morning. Its effect is, however, only temporary, the cervix contracts again, and if the operation has been undertaken for sterility, it is more due to luck than anything else if impregnation occurs during the short time the cervix remains patent. The proceeding, moreover, is not without danger. Pelvic peritonitis may result. Septicæmia is often a sequel to the use of tents, especially sponge tents which are more likely to abrade the os uteri, and thus open a gate to septic absorption. Their use is not efficient, and it is not free from danger.

The old treatment by stretching the os and cervix by graduated bougies is less objectionable. The plan is to pass one bougie into the uterus after another, beginning with a small one, and going on until a large one has been passed. Each bougie is left *in situ* for a few minutes to overcome the spasm of the uterine muscles, and to dilate the cervical canal. It is then removed, and a larger size introduced; the whole operation is effected at one sitting. The time selected for this is about three days after menstruation has ceased. The operation may have to be repeated at the end of three or four months. It is usually effected without chloroform, but in some cases it is necessary to administer some anæsthetic. Dr. Godson has found the treatment by the graduated bougies generally successful. He has not often had to perform the operation more than two or three times successively on the same patient. He regards it as being less dangerous than any other means of dealing with constriction of the os uteri, or the cervical canal. I think, however, the operation is open to the same objection as that of dilating with tents. It is inefficient, its effects are not lasting. This is proved by the fact that it often requires to be repeated. It is, further, tedious, and often extremely distressing and painful to the patient. The most satisfactory method of dealing with the stenosis is by incision of the external os. It is hardly ever necessary to divide the os internum. The operation may be performed by the metrotome, or by the scissors. At one time the practice of dividing the os internum with a double-bladed metrotome was common. Greenhalgh's was the pattern generally used. The instrument is a dangerous one for the following reasons:

The blades are set to cut to a certain depth, and then opened to that extent by a lever. It is thus clear that the knives may cut further than is necessary, and thus do injury which is not intended. The thickness of the neck of the womb in the internal os is not uniform, and so, if the knives are set so as to cut too deeply, and the cervix happens to be narrower than usual, it is easy to wound one or both of the uterine arteries. The cutting is done in the dark by automatic machinery. The single-bladed metrotomes of Aveling and Simpson are not open to the same objection. The operator sets the blade to the extent he thinks necessary, and then cuts with it in nearly the same way as he would with an ordinary bistoury. He can measure by his touch the depth of incision which he makes into the tissues. When it is necessary to divide the internal os, Aveling's single bladed metrotome is the most convenient and the safest in its action. The blade is set and the instrument having been passed into the cervix, it is opened and used as a knife, while the cervix is steadied by a volsella. The division of the external os can be effected by the same instrument in a similar manner. In using Aveling's metrotome it is most convenient to place the patient on her back with her knees drawn up and the uterus

displayed by a Sims speculum. The uterus is then easily seized with a volsella or tenaculum, drawn down and steadied while the cervix is being divided. Simpson's metrotome can be used for the same purpose in a similar manner. Another way of dividing the cervix is by means of Küchenmeister's scissors. The blade, which is tipped like an uterine sound, is passed inside the cervix, while the hooked blade is opened outside the cervix, and made to cut through it onto the inside blade. The instrument is then turned round and the other side of the cervix divided in a similar manner. By this operation only the vaginal portion of the cervix is divided, the os internum being left untouched. The after treatment is simple. The patient should be kept quiet in bed for four days, not being allowed to leave her room until the end of the week. I am not in the habit of applying any dressings to the wound or interfering with it in any way. Some gynecologists are in the habit of passing the sound daily for several days after the operation, in order to prevent reunion of the cut surfaces. This may be necessary after the clean cut made by the metrotome, but it is not required when the scissors have been used, because the wound is of a more lacerated and contused nature and less likely to unite. Another means used to prevent union of the divided surfaces is the introduction of a stem pessary, vulcanite, silver or galvanic. This is open to the objection that pelvic inflammation and septicæmia not unfrequently result. The daily passage of the sound is equally dangerous. I have seen pelvic peritonitis, followed by effusion and abscess and even death, result from this practice in the hands of others. I have never resorted to it myself.

In the event of secondary hemorrhage occurring after the operation, the best plan is to pass a speculum into the vagina and clear away all the clots which may be present. The os may then be seized and steadied by Sims' tenaculum, and the wound plugged with some lint steeped in a solution of perchloride of iron or tincture of iodine. The plug in the os uteri may be supported in its place by packing the vagina with carbolized lint.

The results of this operation are on the whole most satisfactory. (Traverser's case.) The accidents which have been reported as having resulted from this operation have in nearly every case arisen from some imperfect mode of performing the operation or from carelessness or neglect of ordinary precaution in the after treatment. Sir James Simpson thought so little danger attached to the operation that he used to perform it in his consulting room and send the patients home in cabs immediately afterwards. Others followed his example, and it is not surprising that pelvic cellulitis, secondary hemorrhage and other accidents occurred, and thus brought an excellent and safe operation into undeserved odium.

The objects in view—the relief of the dysmenorrhœa and sterility—are not always attained immediately. The pain during the first or second

period after the operation may be even worse than before it. This is due to the congestion and irritability remaining in some cases after the operation.

When undertaken more especially for the cure of sterility, the success is to a great extent dependent upon the time at which the operation is done. The earlier in life that a narrow os is divided, the greater the likelihood of curing the dysmenorrhœa. Young married people anxious for children, usually consult a medical man after about two years of married life. If a small os is discovered and divided at this time, the results will almost certainly be satisfactory. It is when the condition has persisted for many years, and consequent organic changes in the uterus have taken place, that it becomes more difficult to relieve the dysmenorrhœa, and often too late to cure the sterility. The relief of the dysmenorrhœa alone, however, is of the greatest importance to the comfort and health of the patient, and it is in the great majority of cases for the attainment of this object that she seeks medical advice. The sterility may not be removed, although the obstruction has been, because there may be conditions in the Fallopian tubes or ovaries which preclude impregnation. There may be old pelvic adhesions fixing the uterus, the ovaries or tubes. Some of these conditions are beyond clinical diagnosis, and can only be recognized on the post mortem table. Another obstacle, usually an obscure one, depends upon the condition of the husband. The wife may have been placed in a favorable condition for impregnation, which does not ensue.

It is objected against the operation of dividing the os uteri that it some times closes again. This does occasionally occur. When it does, the operation may be repeated and the canal kept open by a stem pessary.

Membranous dysmenorrhœa results from the discharge at the menstrual periods of material, either consisting of the mucous lining of the uterus or organized tissue resembling it. The process is usually attended with pain of a severe nature. Sometimes the membrane comes away in shreds, at other times it forms a distinct cast of the uterus. The point is still under debate as to whether the membrane is the product of conception or not. As a matter of fact, it occurs more frequently in married than in single women. The causes are obscure, endometritis, ovarian irritation, abortive conception being those most usually put forward. The treatment must depend upon the view taken of the cause of the disease. If a syphilitic taint is suspected, and the casts regarded as abortive decidual membranes, an antisiphilitic course of treatment may be adopted. Whether this view, however, is taken or not, the unhealthy condition of the uterine mucosa requires treatment. The best practice, therefore, in any case, is to pursue a course of intrauterine medication. One or other of the various applications to the interior of the uterus, such as fused sticks of sulphate of zinc, nitric acid, tincture of iodine, may be tried.

Where the above means all fail the uterus may be dilated with a laminaria tent, and the diseased mucosa carefully scraped with a curette.

This operation may, after the next menstrual period has been passed, be followed by the application of iodine twice a week to the uterine cavity, with good effect.

Ovarian dysmenorrhœa may result from any morbid condition of the ovary. Acute or chronic ovaritis are likely to produce painful menstruation. Prolapse of the ovary into Douglas' pouch, where it is pressed against the uterus by accumulated fæces, is a cause. Congestion of the ovary, epilepsy and hysteria are allied factors. The diagnosis depends partly on the history, partly on the symptoms and physical signs. If the ovary on either side can be felt on vaginal examination, tender and enlarged, the diagnosis is clear. It is the same if it is found prolapsed into Douglas' pouch. The treatment is not very clear. If an ovary is found prolapsed, an effort should be made to replace it and retain it in position by a Hodge pessary. The pain should be relieved by such sedatives as the bromides, Indian hemp, camphor and hyoscyamus. It is not wise to administer opiates and stimulants in such cases, because the pain is likely to continue for years, and confirmed habits of opium or alcohol are too easily acquired. Local pain at the periods may be relieved by the application of turpentine stupes over the abdomen, mustard poultices and blisters over the ovarian regions. Warm hip baths and tepid sedative vaginal douches may be used during the menstrual period.

In those cases where the neurotic symptoms are exaggerated, and the patient's life is one continual period of pain and suffering, removal of the ovaries may be advisable. It is likely before long that oöphorectomy will come to be recognized as the right treatment in such cases. Just as ovariectomy is performed for the removal of ovarian tumors, so will oöphorectomy find legitimate application in obscure and persistent cases of ovaritis.

A Case of Hysterectomy.—Lawson Tait, F.R.C.S., reports in the *British Medical Journal* a case of hysterectomy in which removal of the appendages had failed to arrest the hemorrhage or growth of the tumor.

Mrs. A. P., aged 40, was placed under my care by Dr. Lycott, of Wolverhampton, in January, 1882. She had a large myoma, which caused persistent hemorrhage. For its treatment, I proposed the removal of the appendages, and proceeded with this operation on January 4th, 1882. I removed the left tube and ovary, as I thought at the time, completely, but the right tube and ovary could nowhere be found, although I extended my incision to the extreme length of eleven inches and a half, and pulled the tumor right out of the abdomen. Still, I could not find any trace of the ovary or tube on the right side. I replaced the tumor and the patient made an admirable recovery. But neither the growth of

the tumor nor the recurrence of the menstrual hemorrhage were in the least degree affected by that operation.

In March, 1884, she again came under my care for the purpose of having the tumor removed. It had increased to quite three times the size it was in 1882, and her condition was that of extreme debility and anæmia from hemorrhage. I opened the abdomen on March 25th, for the purpose of removing the tumor; but the hemorrhage was so terrific from the adhesions which had to be separated, that I desisted, and closed the wound. The patient went home in about three weeks, with no other hope than that of speedy death.

She was one of the thirteen cases of which I spoke to the British Gynæcological Society a few months ago, which were then known to me to be in progress of death from bleeding myomata. The only remaining interest which I had in the case was the expectation of having a *post-mortem* examination, to discover, if possible, why my operation had failed.

One day early in August, I happened to be in Wolverhampton, and called to see how the patient was, and, to my surprise, found her still alive, and able to get about in a sort of fashion, with the hemorrhage still going on, and certainly no kind of improvement effected in her condition. The tumor had grown until it occupied the whole abdomen, and interfered very much with her breathing. The patient was extremely thin, and of a most ghastly white color. She is a woman of remarkable pluck, and when I suggested to her that, if she liked I would try the operation of removal of the tumor once more, explaining to her that I would complete the operation, no matter what it cost, she yielded a ready consent. Therefore, again, on September 5th, assisted by Mr. J. W. Taylor, I succeeded in removing a tumor somewhere about forty pounds in weight. The adhesions were all in front on the line of the old incision. The tumor itself proved to be, as I had all along suspected, one of large soft œdematous myomata, occupying the anterior wall of the uterus the cavity of the organ lying quite behind it, and measuring 9 inches long, and $3\frac{1}{2}$ inches wide at the base. After removal of the tumor, about four quarts of serum exuded from it in the course of a few hours. The pedicle was broad, but easily secured by a clamp. The patient has made a rapid and easy recovery.

Very careful examinations of the tumor were made independently by Mr. Taylor and myself, and we came exactly to the same conclusions, which are as follows:

That there was no aperture on the right corner of the uterus, and that there was no trace of the right ovary or tube. The aperture on the left corner of the uterus was large enough to admit a No. 5 catheter, and there was more than two inches of the left Fallopian tube outside, which had not been removed at the original operation. No trace could be discovered of the left ovary. This ovary, fortunately, I had preserved, and,

when I re-examined the organ which had been removed on January 4th, 1882, I found that its removal had been quite complete, but that only about one inch of the outer part of the Fallopian tube had been removed with it. Here, then we have an extremely curious condition. The appendages on the right side were congenitally absent. The failure of the removal of the uterine appendages to arrest the growth of this tumor had always been regarded by me as due to the fact that the tumor was one of the soft œdematous myomata, and the case is alluded to in my recent paper in the *British Medical Journal* as No. xxv, and as being the real failure in my experience up to the time included in that paper. Now, the evidence is to the effect that the failure was due, not to the peculiar nature of the tumor, but to the fact that I did not completely remove the only Fallopian tube which the woman possessed. In speaking of cases of myoma, I have repeatedly alluded to three cases in my experience where I have failed to arrest the growth of the tumors by removal of the appendages.

In all three cases, I have regarded the reason of this failure as being due to the nature of the tumor, that of the œdematous myoma. In this, the first of the three cases in which I had an opportunity of verifying the accuracy of my opinion, my view of the tumor has been correct, but it seems to me far more probable that the failure of my first operation was due to the incomplete removal of the tube, than to the intrinsic quality of the tumor. I need not point out that this case goes a long way to show that removal of the ovaries has nothing to do with the brilliant results of these operations for bleeding myoma. As I have often said, in many cases I have deliberately left the ovaries, and yet success has been perfect. In this, the ovary was absolutely removed, and the operation failed. This case is one of thirteen patients who were in the process of death from myoma, to whom I alluded in a speech made to the British Gynæcological Society. I hope to be able still further to reduce this list after such an encouraging experience.

I have just received a letter from my friend Dr. Keith, in which he tells me, to my intense delight, that he has been able successfully to remove another from this list of impeding fatalities. I have not the slightest doubt that, in every one of these thirteen cases, if the operation were done under the improved methods of Dr. Keith, we should have a successful result. But, unfortunately, the patients shrink from the procedure from which alone they can derive any prospect of benefit.

Hysterical Paralysis and its Treatment.—In the difficulties which sometimes arise in the diagnosis of hysterical conditions, the physician must often have wished himself a second Ariel, able to watch his Miranda unperceived upon a desert island. If the solitude were absolute, and if the stern pressure of want of food were called in, some paralyzes would dis-

appear and some appetites would improve. We have learned of late years a great deal that enables us to classify many nervous diseases upon the basis of a visible and constant organic pathology, and we are constantly anxious to add more to the list, but some important maladies, such as hysteria, epilepsy and megrim, steadily baffle the microscope, and what is worse, hysteria sometimes baffles diagnosis. The more trouble is spent upon it, the wider seem the conditions it may include. Hysterical paralyses have been for long time troublesome, needing some sign of recognition, instead of the long and patient watching which may prove the only path to diagnosis, unless a rapid guess may be hazarded. It was thought at one time that some faith could be prudently put in the indications of the tendon reflexes; that if the limb were in a hysterical condition it would have no increased tendon reflex, such as generally accompanies contraction due to organic disease; and again, that if it were slack and powerless there would not be the same diminution of tendon reflex there is generally in organic paralysis of cerebral or spinal origin, before a descending degeneration has set in. Tendon reflexes, it was considered, were out of voluntary control if properly examined, and no tricks could be played with them. But unfortunately, even though the subject may be unwilling, it seems as if nature could play tricks with them nevertheless.

MM. P. Marie and Souza-Leite have recently in the *Revue de Médecine*, from an observation of cases collected at the Saltpetrière, published a group of instances of paralyses which show themselves to be what we should call purely hysterical, by their rapid transference from side to side or sudden disappearance, and yet in which the tendon reflexes varied in all ways, sometimes following the general rules of organic paralysis and sometimes reversing them. However, when we have sufficiently clearly established the ordinary rules of tendon reflex in organic paralysis, if we find some cases contradicting them we may justly suspect them to be without organic origin, but we cannot hope to detect all hysterical paralyses by such tests, as many show symptoms in this respect identical with abnormalities due to organic disease. The first case in which M. Charcot, in 1865, established by the microscope a so-called typical instance of sclerosis of the lateral columns, was thought in life to be entirely hysterical; and on the other hand, several cases since observed, which showed symptoms not to be distinguished from the first, and were presumed to be organic after the same fashion, have been carefully shown to have, after death, no organic abnormalities. The extent to which morbid nervous symptoms may go without a pathology, should serve the useful purpose of keeping us humble in our claims to have acquired the key to all the processes of the nervous system. On the other hand, the possibility that a case which looks hysterical may possibly be organic or partly organic, cramps treatment by the fear of mistake. To treat a

monoplegia of genuine organic origin as hysterical, may look brutal or even criminal. For there can be no doubt that a strong emotion, or a strong imperative, may do away with some symptoms that seem the exact counterpart of others left untouched, but which are in reality very different from them; and herein arises one of the points of difficulty between the quack or the fanatic and the scientific physician. The first may use methods involving impossible hypotheses or extravagant sentiment; but he succeeds in calling up the strong emotion, or in assuming in the patient's eyes the authority for the strong imperative, and thereby attains his ends much more triumphantly than the physician who will not simulate the emotion he does not feel, or pretend to believe what he knows to be false. There is a great force of emotion that acts one way at Lourdes and in another at Exeter Hall, but which may be applied in either case to the relief of discomforts that are none the less real because they are often misnamed. The physician, when science has made his knowledge certain and his methods of command more varied, may hope to assume an equally effective imperative, or even to find some mental methods that involve no deception.—*British Med. Jour.*

Cocaine in Dilatation of the Female Urethra after Simon's Method.—In the *Meditz. Obozor.*, 1885, Vol. xxiv., No. 15, p. 255, Dr. R. Koppe, of Moscow, describes the case of an anæmic, extremely nervous, and sensitive lady, aged 40, who presented symptoms of an obscure vesical tumor, and in whom, for the diagnostic purposes, he resolved upon dilatation of the urethra. Chloroform being contra-indicated, the author resorted to cocainisation of twenty minutes' duration, by means of introducing into the urethra a Playfair's sound with hygroscopic cotton-wool soaked in a 20 per cent. solution of hydrochlorate of cocaine. At the same time, the solution was applied, also to the lower part of the anterior vaginal wall and to the urethral orifice. The application was renewed every five minutes. The diagnostic operation consisted in making three incisions (with scissors), from $\frac{1}{4}$ to $\frac{1}{2}$ centimetre in length, into the edge of the urethral orifice, and in dilating the urethra by means of Hegar's uterine dilatator (Nos. 10 to 18). Not the slightest pain or any other sensation was felt by the hyperæsthetic patient during the whole procedure. Thus cocainisations proved here a brilliant substitute for chloroform narcotisation. As to the vesical tumor, it turned out to be 'adenoid.'

Case of Diabetes Mellitus Cured by Removal of the Uterine Appendages.—In the *British Medical Journal*, Dr. Imlach records a most interesting case of a widow, aged 31, who suffered from pyosalpinx. An operation was suggested, but it was discovered that the patient was suffering from diabetes mellitus, passing over 2,000 grains of sugar during the twenty-four hours. After three months' treatment under antidiabetic diet, the patient became so weak that an operation was decided upon.

On May 19th, 1885, the uterine appendages were removed. The right Fallopian tube was thickened in its walls, occluded at both ends, and distended with pus. The left tube was thickened, but not occluded at its fimbriated extremity, and contained only a little muco-pus. Both ovaries were so firmly adhered to the pelvis, that their removal was somewhat difficult. The fundus of the uterus, which was bound down by dense adhesions to the sacrum, was liberated. The patient recovered without a bad symptom. The quantity of sugar gradually diminished until May 26, when it finally disappeared. The patient returned to her home shortly afterwards, and lived on ordinary diet, without any return of diabetic symptoms.

Corrosive Sublimate and Glycerine in Epithelioma of the Cervix. — (Dr. Biddle, Kingston-on-Thames, in *British Medical Journal*.)

There are few things in the way of palliative measures that have given more satisfaction than the use, in a case of epithelioma of the cervix uteri, of a lotion or injection containing one fourth of a grain of corrosive sublimate, and half an ounce of glycerine to a pint of water. Before using it a patient of mine had for seven or eight months been subject to paroxysms of agonizing pain, and to frequent hemorrhages, which were occasionally profuse. Immediately upon its employment, and for the last three months of her life the hemorrhage became merely nominal, and instead of agonising pain, there was simply the distress consequent upon irritation (by the tumor) of the bowel and bladder, the latter of which became perforated a week before death. I attribute the beneficial change to the very marked reduction in the amount of infiltration. The lotion was used continuously with few exceptions, twice a day during the last three months, and I shall certainly adopt the same treatment in the next case I have, even before recovery is despaired of. In the case referred to, it was not tried until the curative effects of chromic acid had been tried in vain.

Death Under Ether—On Tuesday, July 7, a death occurred at the London Hospital during the administration of ether. The deceased was a woman about forty years of age, who had been for some time under treatment, having been originally admitted with fracture of the right tibia, and also of the sternum. The latter injury became compound, and later on pyemic changes took place, large collections being formed in the knee-joint and pelvis. Soon after being placed on the operating table, and when less than half an ounce of ether had been administered, respiration suddenly ceased, and though vigorous efforts to restore breathing by artificial means were resorted to, recovery did not take place, the woman never once rallying. — *Medical Press*.

III.—DISEASES OF CHILDREN.

Tonsillitis in Relation to Febrile Attacks in Childhood.—The object of this anonymous contribution is to call attention to the frequency of tonsillitis, when not suspected, as a cause of so-called "febricular attacks" in young children. In many cases of high temperature the physician looks in vain for an explanation in the condition of the organs of the great cavities, while an inspection of the throat at once reveals the cause, although there was present no pain on swallowing, nor other symptoms pointing definitely to throat inflammation.

Tenderness is often found on deep pressure behind the ramus of the jaw. In other cases, after a day or two, throat symptoms become pronounced. Apparently simple in its nature, tonsillitis is very frequent in children of four years and over, but by no means rare before that age. It is not always easy to distinguish these cases from diphtheria; even in those which ultimately declare themselves as simple pharyngitis there are often seen patches of a whitish exudation, which extend beyond the tonsils to the uvula; such should not at first sight be dogmatically classed as diphtheria. Mistakes are likely to occur even with the best observers. When such cases spread through the house they may be regarded as diphtheritic; when they recur frequently in the same child they are likely to be only simple inflammations. In many cases they do not seem due to exposure, but occur in strumous children, especially in connection with chronic hypertrophy of the tonsils. A routine examination of the throat should, therefore, be made in all cases of febrile attacks in children.—*Med. Times.*

Bibliography.

Poisons, Their Effects and Detection: A Manual for the use of Analytical Chemists and Experts. With an Introductory Essay on the growth of modern toxicology. By ALEXANDER WINTER BLYTH, M.R.C.S., F.C.S., etc. With tables and illustrations. Volume I. New York: William Wood & Co., 56 and 58 Lafayette Place. 1885.

This is the volume of Wood's Library for June of the current year. The title given above quite fully expresses the character of the book. The poisons discussed present a wide range, and to consider them, a very convenient system of classification has been adopted. The introductory chapter, devoted to "*Old Poison Lore*", is very readable, presenting some interesting points in the ancient history of the subject. The entire subject is presented in a readable style, and even for pastime the student will find the book pleasant reading.

Index Catalogue of the Library of the Surgeon General's Office, United States Army. Volume VI. HEASTIE-INSFELDT. Washington: Government Printing Office, 1885.

This huge volume continues the patient task of Surgeon Billings in cataloguing the Army Library. Some idea of the extent of the work in

progress may be had from this statement in the letter of inscription of the volume to Surgeon General Murray:

"This volume includes 7,900 author's titles, representing 2,543 volumes, and 7,250 pamphlets. It also includes 14,590 subject titles of separate books and pamphlets, and 35,290 titles of articles in periodicals."

The Management of Labor, and of the Lying-in Period. A Guide for the Young Practitioner. By HENRY G. LANDIS, A.M., M.D., Professor of Obstetrics and Diseases of Women in Starling Medical College, etc. Philadelphia: Lea Brothers & Co.

This little volume by no means lays claim to being a systematic treatise on General Obstetrics; but it is rather a familiar talk as between the preceptor and pupil—or the old practitioner and his young friend just about assuming the duties of physician. The author in a very pleasant style details the duties of the obstetrical attendant in simple labor, and then details the management of the various difficulties, more or less important, which from time to time occur.

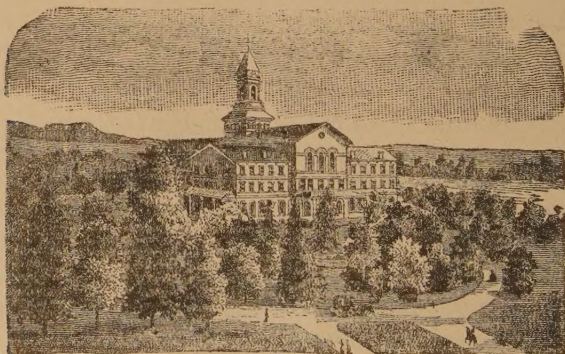
The book is a good one for the purpose intended, and indeed the experienced accoucheur will find hints and suggestions that will be of service.

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